National Energy Board

Annual Report 1982

25 March 1983

The Honourable Jean Chrétien, P.C.,
Minister of Energy, Mines and Resources,
Ottawa, Ontario.

Dear Sir:

In accordance with the provisions of Section 91 of the National Energy Board Act, the Revised Statutes of Canada, 1970, chapter N-6, I am pleased to submit the Annual Report of the National Energy Board for the year ended 31 December 1982.

Yours sincerely,

C. Geoffrey Edge
Chairman

Ce rapport annuel est publié séparément dans les deux langues officielles. Des copies en langue française pourront être obtenues du bureau de la division du secrétariat de l'Office national de l'énergie.

Cover: Pipeline welding along Trans Québec & Maritimes Inc. natural gas pipeline (Photo supplied by TQM)

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CHAIRMAN'S MESSAGE

The year 1982 has been a significant one in the development of the Board.

The National Energy Board Act has been substantially amended. The amendments stem from three separate bills, C-108, C-60 and C-87. Bill C-108 expands our role in international power lines, gives us improved ability to regulate pipeline tariffs through the use of interim tolls, authorizes an increase in the size of the Board from nine Members to eleven, and brings a number of other operating improvements. Bill C-60, which was given royal assent in 1981 and proclaimed early in 1983, changes the expropriation and compensation procedures for additional lands required for pipeline rights-of-way, providing landowners with the right to local public hearings before their lands can be expropriated. Bill C-87, proclaimed at the same time as Bill C-60, provides for the appointment of up to six temporary Board Members.

Following the issuance in 1981 of the Board's report on its inquiry into Canadian energy supply and demand, an Omnibus Hearing was conducted in 1982 on 29 applications to export natural gas, both to the United States by pipeline and to Japan and Korea in liquefied form. The decision on the first phase, handed down in May, was a major one, establishing new procedures for determining the surplus of natural gas available for export. The final decision, released early in 1983, recommended the approval by Cabinet of a number of new licences.

At the same time the market for natural gas in the United States has been depressed, with considerable pressure on utilities to buy the lowest cost gas available. This situation is due partly to the recession and partly to a surplus of low-cost indigenous gas. These factors are causing many of the existing Canadian gas export licences to be considerably underutilized.

The decline in the Canadian demand for oil, a striking feature of the oil scene in 1981, became even more marked in 1982. This decline was the result of continuing conservation, fuel switching and the deepening recession. In the previous year the decline in demand was largely offset by the Alberta Government's cutback in provincial production of crude oil, but in 1982, with production available at maximum capability, available supply often exceeded demand. The Board was in the forefront of efforts to keep shut-in oil production capacity to a minimum. Through export licensing and related activities, the Board played a major role in minimizing the shut-in, particularly of heavy crude oil, during the second half of the year.

For electricity, the year 1982 provided a landmark decision, namely the first export licensing of power derived entirely from nuclear generation. For this purpose the Board issued three licences to The New Brunswick Electric Power Commission. One additional licence application was denied, but following the review of new evidence at a hearing later in the year, this fourth licence was granted.

The opening of the Arctic Pilot Project Hearing in February marked the beginning of regulatory proceedings before the Board on the development of Arctic Island energy resources. In July, the project sponsors announced they were investigating the possibility of selling the liquefied natural gas in Europe rather than in the United States. TransCanada sought an indefinite adjournment of its application for the regasification terminal in Eastern Canada which would not be required in the event of exports to Europe. The Board granted TransCanada's request on 28 July, and adjourned the Arctic Pilot Hearing on 31 August until the project sponsors could come forward with a definitive proposal for the export of the liquefied natural gas.

Another application for an offshore project is expected in 1983, namely, the transportation and export of gas from Sable Island.

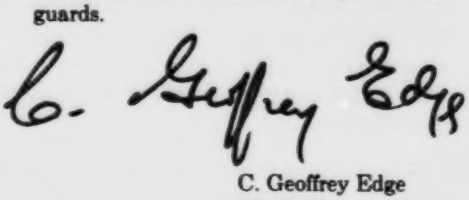
The Board has been viewing with increased concern the high cost of construction of pipelines in Canada and the fact that this cost was rising at a faster rate here than in the United States. In a report issued in June 1982, the Board identified a wide range of problems which require resolution if the pipeline construction industry is to regain its full health and fulfil its vital role of connecting supplies to market. As a result of the Board's report, the Minister of Energy, Mines and Resources has set up a Task Force to make recommendations for the resolution of these problems and to report to him by mid 1983.

To focus more attention on the problems of financing and the design of tariffs for pipelines in the 1980's, the Board, in conjunction with the McGill University Centre for the Study of Regulated Industries, sponsored a major conference on this subject in November 1982. A stimulating array of papers was presented to senior executives from government and industry, and public interest representatives.

In September 1982, the Board made a presentation on frontier transportation of oil and gas to the Special Committee of the Senate on the Northern Pipeline. A major recommendation was that a federal coordinator be appointed for complex major energy projects to streamline and coordinate the presentation of information for Cabinet decisions, and that a Commissioner be named to ensure that key energy projects are completed expeditiously under effective cost control and environmental and socio-economic safeguards.

To provide the public with advance notice of forthcoming regulatory actions, the Board commenced in 1982 publishing a Regulatory Agenda. This Agenda is now issued quarterly and has received very favourable response.

I have touched on some of the more noteworthy events of 1982. As we turn to the future, the Board will be placing increasing emphasis on ensuring that the objectives of regulation by the National Energy Board are achieved. In broad terms, all applications to the Board should be processed and decided expeditiously, fairly and without undue burden on the interested parties. Projects found to be in the Canadian public interest should be authorized to proceed expeditiously, consistent with provision for appropriate safeguards.



C. Geoffrey Edge
Chairman

MEMBERS OF THE NATIONAL ENERGY BOARD

Chairman:	C. Geoffrey Edge
Vice-Chairman:	R.F. Brooks
Associate Vice-Chairmen:	L.M. Thur W.A. Scotland* J. Farmer A.D. Hunt
Members:	J.R. Jenkins J.R. Hardie J.L. Trudel A.B. Horner, Q.C. A.B. Gilmour

Change in Membership

Amendments to the NEB Act arising from Bill C-108 provide for the appointment of eleven permanent Board Members; previously there had been nine.

On 16 August 1982, the Minister announced the appointment of Mr. A. Digby Hunt as a Member and Associate Vice-Chairman of the Board. Before joining the Board, Mr. Hunt was Assistant Deputy Minister in the Department of Energy, Mines and Resources, a position which he had held since 1976. He was also Chairman of the Petroleum Compensation Board and Vice-Chairman of the Lower Churchill Development Corporation.

* Mr. Scotland is the Board's Designated Officer with the Northern Pipeline Agency and is based in Calgary.

STANDING PANELS AND COMMITTEES*

PANEL	CHAIRMAN	MEMBERS		ALTERNATE
Oil	R.F. Brooks	J.R. Jenkins	J.R. Hardie	L.M. Thur
Gas	L.M. Thur	R.B. Horner	A.B. Gilmour	J. Farmer
Electrical	J.L. Trudel	R.F. Brooks	A.D. Hunt	L.M. Thur
Pipeline	J. Farmer	J.R. Jenkins	R.B. Horner	A.B. Gilmour
Financial Regulatory	J.R. Hardie	A.D. Hunt	J.L. Trudel	R.B. Horner
COMMITTEE				
Executive	C.G. Edge	R.F. Brooks J. Farmer R. St.G. Stephens	L.M. Thur A.D. Hunt	
Internal Audit	C.G. Edge	R.F. Brooks R. St.G. Stephens	L.M. Thur	
Energy Studies	C.G. Edge	R.F. Brooks K.W. Vollman	L.M. Thur	
Regulatory Process	R.F. Brooks	H. Wetston	G. Yorke Slader	R.B. Horner

* The Chairman is ex-officio member of all Panels and Committees.

The Board assigns much of its ongoing regulatory workload to five standing panels, each composed of a quorum of three Board Members. In addition certain Board Members are involved in the work of four committees, two of which deal with issues affecting the internal management of the Board. The composition of each Panel and Committee is shown in the accompanying table.

STANDING PANELS

In exercising their delegated powers and duties as described below, the Panels refer to the whole Board any matters which raise questions of general policy, involve substantial expenditures on the part of regulated companies, require consideration as to the desirability of a public hearing, or otherwise raise issues considered by the Panel to be of importance to the Board as a whole.

Electrical Panel

The Electrical Panel exercises the powers of the Board in all matters relating to electricity, excluding the issuance and amendment of certificates or licences and any matters which would require the holding of a public hearing.

Financial Regulatory Panel

The Financial Regulatory Panel exercises the powers of the Board with respect to tolls and tariffs charged by gas and oil pipeline companies under the Board's jurisdiction, excluding any matter that necessitates the holding of a public hearing.

Gas Panel

The Gas Panel exercises the powers of the Board in all matters relating to natural gas, liquefied natural gas, synthetic natural gas, propane, butanes, ethane, and ethylene, except for the issuance and amendment of licences or any other matter that requires the holding of a public hearing. In addition, the Panel advises the Minister under section 22 of the Act respecting the export price of natural gas.

Oil Panel

The Oil Panel exercises the powers of the Board under Part I of the Energy Administration Act pertaining to the export charge on crude oil, oil products, and oil used as fuel in international transportation. The Panel issues licences for the export of oil and oil products for a period of up to one year, oversees the interprovincial movement and allocation of western Canadian crude oil and advises the Minister respecting oil-related energy matters.

Pipeline Panel

The Pipeline Panel exercises the powers of the Board in all matters relating to the construction, operation, and maintenance of oil and gas pipelines, including pipeline safety and environmental considerations, but excluding the issuance and amendment of certificates or matters that require a public hearing.

COMMITTEES

Executive Committee

The Executive Committee, which consists of the five senior-level Board Members, as well as the Executive Director, deals with long-term, broad issues affecting the Board.

Internal Audit Committee

The Internal Audit Committee keeps the Board's operations under review to ensure that they are administered efficiently, economically, and effectively.

Committee on Regulatory Process

This Committee studies and keeps under review all aspects of the regulatory process, and recommends to the Board measures designed to improve the efficiency and effectiveness of regulation.

Energy Studies Committee

This Committee initiates and reviews studies on any aspect of energy which may be of interest to the Board and which is outside the orbit of other panels and committees.

FUNCTIONS AND RESPONSIBILITIES OF THE NATIONAL ENERGY BOARD

Under the National Energy Board Act of 1959 and subsequent amendments, the Board has two principal responsibilities: to regulate specific areas of the oil, gas and electrical utility industries in the public interest, and to advise the Government on the development and use of energy resources.

The Board on its own initiative may hold inquiries into a particular aspect of the energy situation and prepare reports for the information of the Government, of Parliament and of the general public.

The Board also carries out studies and prepares reports at the request of the Minister.

The regulatory role of the Board encompasses the following fields:

Certificates of Public Convenience and Necessity for Pipelines and Power Lines

The Board grants certificates to construct and operate interprovincial and international oil, gas and petroleum products pipelines, and international electric power lines. Before a certificate is issued, the Board considers the application at a public hearing. Under an amendment passed in 1982 and proclaimed on 1 February 1983, the NEB Act may, by order of the Governor in Council, be extended to designated interprovincial power lines.

Pipeline and Power Line Orders

The Board may issue orders approving minor additions or modifications to existing pipeline systems without calling a public hearing. Such additions and modifications are restricted to sections, branches and extensions of pipelines not more than 40 kilometres in length, and ancillary installations such as tanks, pumps, compressors, meter stations, and communications systems. The Board may also by order authorize international power lines of voltage not exceeding 50 kV.

Pipeline Utility Crossings

For reasons of safety, the protection of the environment, and the existence of other utility services, no pipeline may cross or be crossed by another utility without authorization. Where a pipeline is to cross a navigable water or a railway, leave must be obtained from the Minister of Transport or the Canadian Transport Commission respectively. Crossings of the facilities of other utilities may only be made with the authorization of the Board. Authorization where given is by Board order after consideration of all the relevant information.

Pipeline Safety

The Board's Oil and Gas Pipeline Regulations provide for the safe design, construction and operation of pipelines under Board jurisdiction. Commencing with the design stage, applications for pipeline construction are reviewed to ensure compliance with the regulations. Pipeline companies are required to have contingency plans developed in coordination with local authorities to provide for the safety of the public in the event of line breaks during testing or operation. To ensure high standards in the safety of pipeline construction and operation, the Board carries out inspection programs and conducts investigations and reviews of pipeline system performance.

Environmental Protection

The environmental information requirements for new oil and gas pipelines and for modifications or extensions to existing systems and for international power lines are set forth in the Board's Rules of Practice and Procedure. The Board takes into consideration the environmental impact of the construction and operation of oil pipelines, gas pipelines and international power lines. The Board considers such diverse concerns as impact on permafrost soils, erosion and siltation at water crossings, impact on wildlife, preservation of archaeological sites, air emissions, noise and protection of agricultural soils.

Export Licences and Orders

The National Energy Board Act requires the Board, in considering applications for export licences, to take into consideration all matters that appear to it to be relevant. It must, among other things, satisfy itself that the quantities of energy involved do not exceed the surplus remaining after allowance has been made for reasonably foreseeable Canadian requirements for that particular form of energy. Following proclamation of Bill C-108, there is an additional requirement that, where oil or gas is to be exported and subsequently imported, or in the case of an import of oil or gas, the Board must have regard for the equitable distribution of oil or gas in Canada. Also, it allows the Board to be given the power to, in effect, allocate supplies of oil or gas between regions of the country, e.g., during periods of tight supply other than times of national emergency.

Regulation of Pipeline Tolls, Tariffs and Accounting Practices

The Board regulates the tolls and tariffs of pipeline companies under federal jurisdiction to ensure they are just and reasonable and to ensure that there is no unjust discrimination against any person or locality. The tolls or tariffs allowed reflect, among other things, the capital and operating costs of the pipeline company and

the necessity for it to earn an adequate return on its investment so as to be able to attract capital as needed to maintain and extend service. The Board has established uniform accounting classifications and practices which it requires oil and gas pipeline companies under its jurisdiction to use.

Responsibilities under the Energy Administration Act

The Board is required to administer certain provisions of the Energy Administration Act (formerly the Petroleum Administration Act); namely the imposition and collection of a charge on the export of crude oil and certain petroleum products and the administration of the price of natural gas in interprovincial and export trade.

Responsibilities under the Northern Pipeline Act

The Northern Pipeline Act, passed on 12 April 1978, provides authority for the construction of a natural gas pipeline in Canada along the Alaska Highway, as well as for the creation of the Northern Pipeline Agency to oversee the construction of the pipeline. Certain terms and conditions in the legislation require the company to seek various approvals from the Board and from the Minister responsible for the Northern Pipeline Act. The Board's responsibilities relate mainly to financing and tariffs, approval of pipe specifications, granting of leave to open orders and regulation of the operation of the line.

Implementation of Board Decisions

When the Board is prepared to grant a certificate for a pipeline or a power line or to issue a licence for the export of natural gas or electricity, the import of natural gas, or the export of oil for a period exceeding one year, it so reports to the Governor in Council through the Minister of Energy, Mines and Resources. If a certificate is approved by the Governor in Council, the certificate is then issued by the Board. In the case of export or import applications, licences issued by the Board go into effect on approval by the Governor in Council. A decision of the Board to refuse an application is not subject to referral to the Governor in Council. The Board's Reasons for Decision on applications are issued as public documents.

Because of the special nature of the trade in crude oil and petroleum products, specifically the use of short-term contracts and the need to make decisions on a daily basis, oil export controls (except for licences for periods in excess of one year) are exercised directly by the Board without reference to the Governor in Council.

Applications for orders authorizing the export of relatively small quantities of ethane, propane, butanes, and ethylene for periods of up to one year, and a maximum of three billion cubic metres of natural gas in any one year for up to two years, are also dealt with by the Board without reference to the Governor in Council. Decisions on rates, tolls, and tariffs are made by the Board without reference to the Governor in Council.

Appeals of Board Decisions

The National Energy Board is a Court of Record and with regard to attendance, the swearing and examination of witnesses, the production and inspection of documents, and the enforcement of its orders, it has all the powers vested in a superior court of record.

Under section 17(1) of the National Energy Board Act, the Board may review, rescind or change any order or decision made by it, or may re-hear any application before deciding it. Under section 17(2) of the Act, the Board may change a certificate or licence issued by it, but no such change is effective until approved by the Governor in Council. Parties may apply to the Board, pursuant to these sections of the Act, requesting the Board to review an order, decision, licence or certificate. A decision or order of the Board may be appealed to the Federal Court of Appeal providing the appeal is based upon a point of law or jurisdiction. Leave to appeal must be obtained upon application made within one month after the making of the Board's decision or order, or within such further times as that Court may allow. Judgments of the Federal Court of Appeal may, with leave, be appealed to the Supreme Court of Canada. The Federal Court of Appeal also has jurisdiction to review and set aside a decision or order of the National Energy Board upon certain stipulated grounds.

The Trial Division of the Federal Court of Canada has exclusive jurisdiction to issue an injunction, writ of certiorari, writ of prohibition, writ of mandamus, writ of quo warranto or grant declaratory relief against any federal board, commission or other tribunal.

PUBLIC HEARINGS

During 1982, the Board conducted all or part of 18 public hearings in locations from Vancouver, British Columbia, to Fredericton, New Brunswick, and in Northern Canada, during the course of which it sat for 198 days.

The following summarizes the major decisions rendered in 1982 following public hearings:

Pipeline Certificates And Export Licences

TransCanada PipeLines Limited

Following a public hearing in November 1981, in January 1982 the Board issued Certificate GC-69 authorizing TransCanada to construct and operate the "North Bay Shortcut", a 420-kilometre pipeline south of the Ottawa River connecting with TransCanada's existing pipeline near Morrisburg, Ontario. The estimated cost of the line was $403 million.

In February 1982, the Board conducted a public hearing on an application by TransCanada for a certificate to construct and operate about 211 kilometres of pipeline loops in Saskatchewan and Manitoba (pipeline loops are additional pipeline constructed parallel to an existing pipeline to increase capacity). In April, the Board issued its decision to approve 186.4 kilometres of the applied-for pipeline, and in May, following Governor in Council approval, issued Certificate GC-70. The estimated cost of the new facilities was $218 million.

Trans Québec & Maritimes Pipeline Inc.

In January 1982, the Board released its decision approving an application by TransCanada to modify the pipeline route authorized by the Board under Certificate GC-65. (Although TransCanada submitted the application, Certificate GC-65 was later transfered to TQM).

The new route would follow the north shore of the St. Lawrence between Yamachiche, Quebec, and Quebec City, Quebec, instead of the south shore. In its decision the Board stated that the new route, which parallels existing utility corridors, would reduce adverse impacts on agricultural lands and would save about $7 million through the elimination of a river crossing near Trois-Rivières.

Arctic Pilot Project Inc.

On 2 February 1982, the Board began hearings on an application by Arctic Pilot Project Inc. and an associated application by TransCanada PipeLines Limited.

The Arctic Pilot Project application involves the construction of a natural gas pipeline and liquefaction plant on Melville Island in the Arctic, the transportation of the liquefied natural gas (LNG) in ice-breaking tankers to an eastern Canadian port where the LNG would be regasified, and finally the delivery of natural gas by displacement to Emerson,

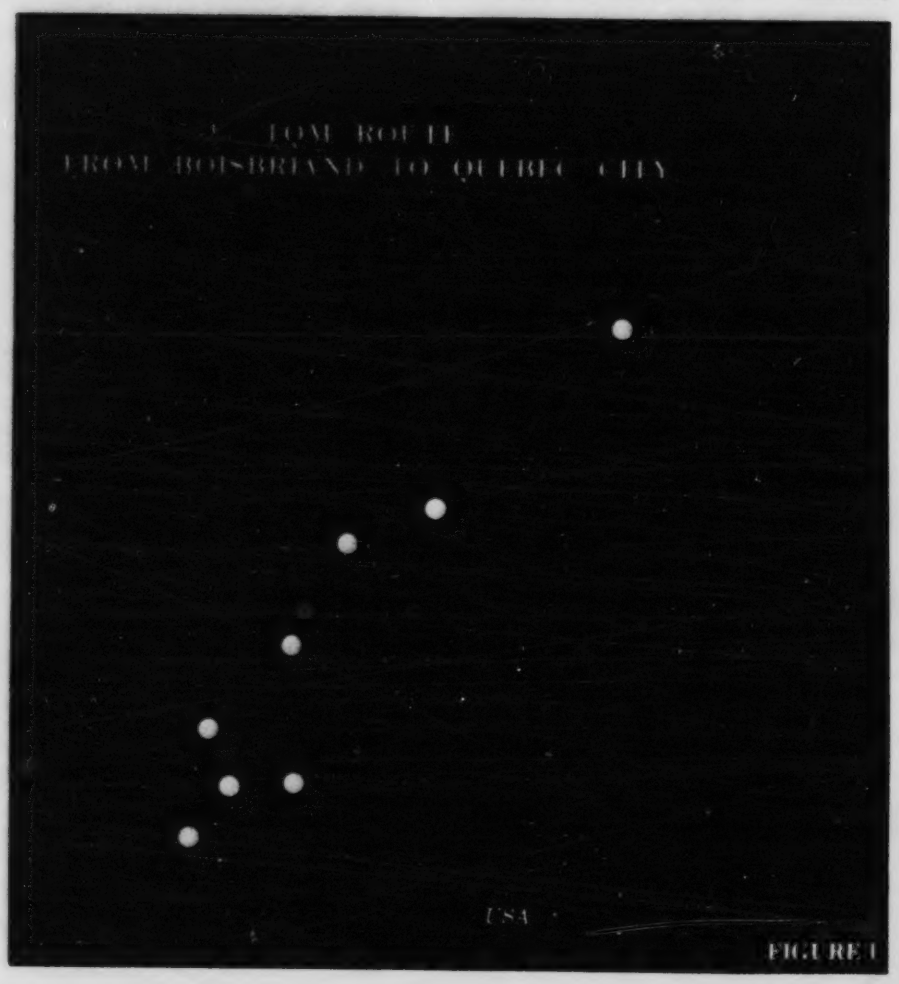


FIGURE 1

Manitoba, Niagara Falls, Ontario, and Monchy, Saskatchewan, for export to the United States.

TransCanada applied for a certificate to authorize the construction and operation of the associated LNG receiving terminal and regasification plant to be located at either Gros Cacouna, Quebec, or Melford Point, Strait of Canso, Nova Scotia.

In addition to the Board's regulatory responsibilities for licensing the gas for export and certificating the regasification plant as part of a pipeline system, the Minister of Energy, Mines and Resources in conjunction with the Minister of Indian and Northern Affairs asked the Board to conduct a complete examination of the entire project and to report on all matters the Board considered relevant respecting the present and future public convenience and necessity of the proposed facilities.

In late July, with the hearing continuing, the sponsors of the Arctic Pilot Project announced that they were investigating the possibility of selling the LNG to European markets as an alternative to the United States market. As a result, TransCanada requested an indefinite adjournment of its application to construct the regasification terminal in Eastern Canada because an export to Europe would make the regasification facility unnecessary. The Board granted this request on 28 July 1982.

On 31 August 1982, the Board adjourned the hearing on the Arctic Pilot Project Inc. application. The decision to adjourn resulted from a motion by Arctic Pilot Project Inc. to reschedule the hearing and a counter-motion by the Inuit Tapirisat of Canada and the Baffin Region Inuit Association to adjourn the proceeding indefinitely.

In adjourning the hearing, the Board stated in part:

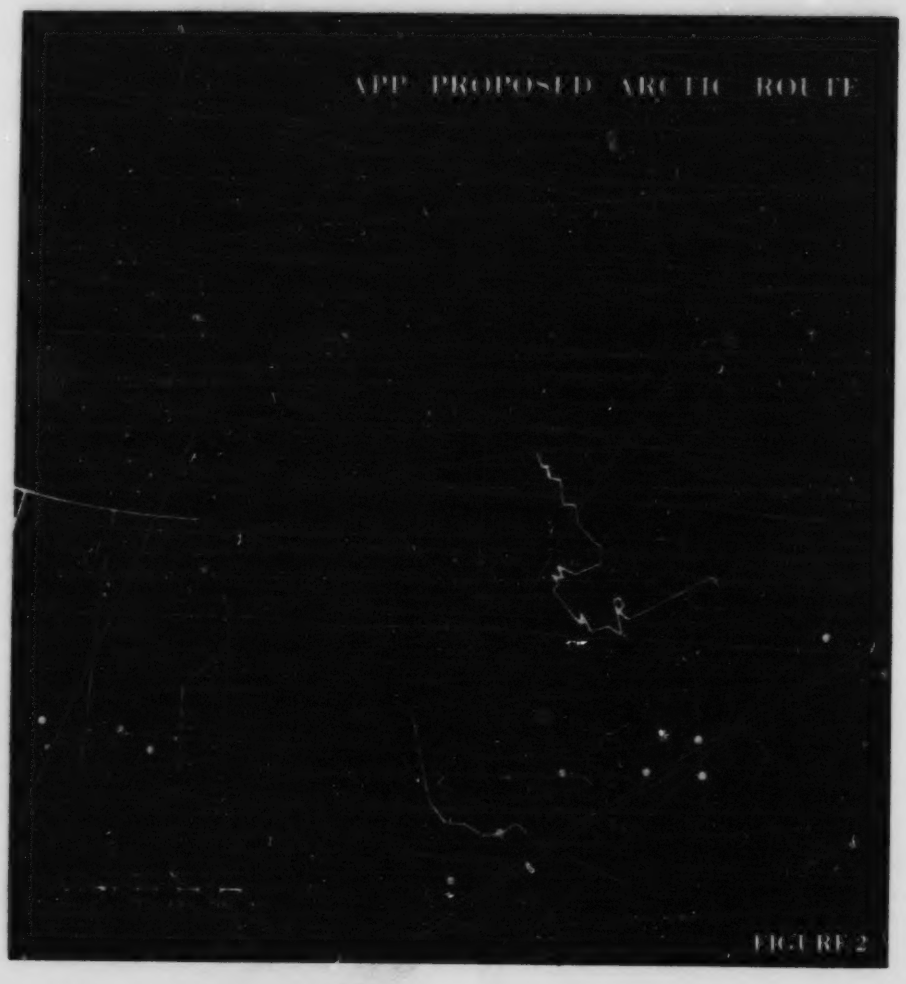


FIGURE 2

"APP has stated that it is approaching European markets on the basis of essentially the same project which is now before the Board. The Board accepts that this is APP's intention but there can be no guarantee that European purchasers would be of the same mind. APP may find it desirable, in the end result, to negotiate an export which could cause substantial changes to the project. Should that happen, a continuation of the hearing of the northern component at this time would be fruitless. It is possible that much of what would be heard would have to be re-heard with obvious cost implications. The Board considers the risk of this occurring to be too great to justify proceeding at this time. Therefore, this proceeding is adjourned until APP can come forward with a definitive proposal for the export of LNG.

The Board appreciates APP's desire to maintain the momentum of the hearing and is prepared to proceed with it as expeditiously as possible, keeping in mind the need to give parties reasonable notice, as soon as the

uncertainty surrounding the project is removed."

Gas Export Omnibus Hearing

By December 1981, the Board had received sixteen applications for licences to export natural gas or to vary existing licences. The Board decided to consider these applications at a public hearing to be held in 1982.

In light of the rapidly changing conditions in the natural gas industry, the Board also judged it timely to review the continuing appropriateness of conditions attached to existing licences to export natural gas.

In addition, during its 1980-81 Inquiry into Canadian Energy Supply and Demand, the Board had received representations that it should modify its procedures for determining the surplus of natural gas available for export. It appeared to the Board that it should review its surplus determination procedures in association with its hearing on export applications.

Accordingly, on 14 December 1981, the Board issued Order No. GH-6-81 setting down the Gas Export Omnibus Hearing, 1982.

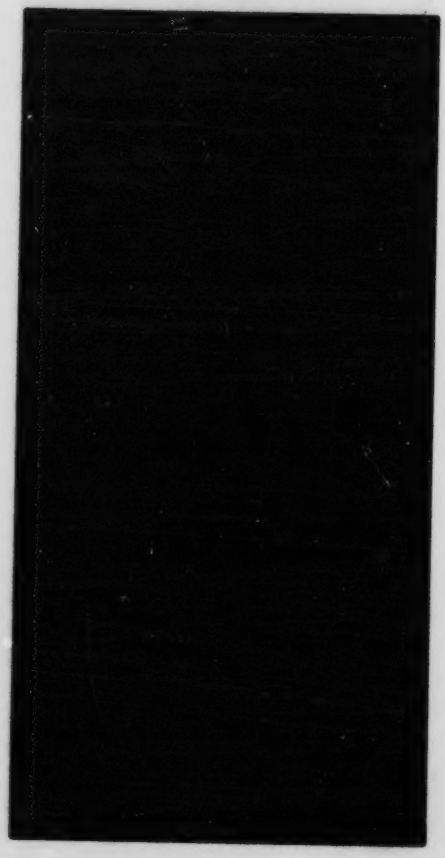
The hearing was held in three phases:

Phase I — The Review Phase
Phase II — The Licence Phase
Phase III — The Surplus Phase

[1] Annual averaging is a condition in some licences which permits the licensee to make up underdeliveries incurred in previous years by exporting at the maximum daily level until the amount exported on a cumulative average annual basis equals the annual exports allowed by the licence.

Phase I

The Review Phase of the hearing was held in Ottawa from 16 March to 6 April 1982 inclusive. During Phase I the Board considered whether any changes should be made to the conditions of existing natural gas export licences and whether the protection procedures for volumes already licensed should be changed. The Board also reviewed the procedure it used to determine the availability of surplus natural gas for export. It also considered other issues related to the terms and conditions of existing and future licences. Among these were whether annual averaging[1] should be removed from licences and whether take-or-pay should be included.



In May 1982, the Board released its decision on Phase I. The Board decided not to make changes in existing export licences and it decided to adopt more flexible procedures for determining the amount of surplus natural gas in Canada available for export. The Board retained the 25A1 criterion (25 times the current year's demand) in its Reserves Formula but decided to base the allowance for exports under existing licences on maximum quantities exportable under existing licence conditions. Previously the remaining term quantity in the licence had been used. The Board also decided to use a Deliverability Appraisal as a guideline, rather than as a rigid test, to determine the annual quantities of gas surplus to foreseeable Canadian requirements. The allowance for exports in the Deliverability Appraisal will be based on a forecast level of exports under existing licences rather than on the maximum authorized quantity.

The Board also decided that the additional flexibility afforded by annual averaging conditions was desirable. Furthermore, the Board indicated that it would place considerable emphasis on the existence of reasonable take-or-pay provisions in export contracts, where such provisions were appropriate. The Board did not, however, condition existing licences to include take-or-pay.

The Board recommended to the Governor in Council that amendments be made to its Part VI Regulations that would require licence-holders to file copies of all changes and amendments to gas sales contracts and agreements between exporters and importers and which would prohibit any export of gas pursuant to these changes or amendments until the Board's approval had been obtained. The amendment was approved by Governor in Council on 21 October 1982.

The Board also recommended a further amendment to its regulations to allow it to authorize, by order, the export of natural gas for terms of up to two years. The total of all authorizations for any one year would be limited to three billion cubic metres. This amendment was subsequently approved by Governor in Council and came into effect on 18 November 1982.

Phase II

Following the Phase I decision, the Board provided applicants and other interested parties the opportunity to file new applications or amend existing applications or submissions to take account of the Board's decision.

By the opening of Phase II, the Licence Phase, on 13 July 1982, the Board had received 29 applications for the issuance of new licences or amendments to existing licences, and some 100 interventions. All but four of the applications involved the export of natural gas to the United States; three were for the export of liquefied natural gas (LNG) to Japan or Korea; the fourth application was for an import/export licence for the movement of natural gas through Canada.

In Phase II, the Board examined the economic, contractual, regulatory, and other aspects of the individual applications. It also examined the markets for Canadian gas in the United States and Japan.

Phase III

Phase III, the Surplus Phase of the hearing, commenced in Ottawa on 13 September, continued in Calgary on 27 September and in Vancouver on 4 October, and reconvened in Ottawa on 15 October 1982.

During this phase the Board heard evidence on natural gas demand, supply, and surplus available for export.

The Board's decision on Phases II and III was issued on 27 January 1983.

Right-of-Way Hearings

Under section 74 of the National Energy Board Act, pipeline companies requiring additional lands for the efficient construction, maintenance or operation of a pipeline, may apply to the Board for authority to take the required lands. During 1982, the Board dealt with seven applications pursuant to section 74 of the Act: four concerning TransCanada PipeLines Limited and three concerning Trans Québec & Maritimes Pipeline Inc. As a result of the applications and subsequent public hearings, the Board issued decisions in six of the cases. In one case, TransCanada made an application in respect of certain properties located within the Renfrew-Lanark portion of the North Bay Shortcut. However, subsequent to the hearing, TransCanada settled with all the remaining landowners and withdrew its application.

The first TransCanada application, heard on 12 and 13 November 1981 in Trois-Rivières, involved 18 properties and 16 landowners. TransCanada applied for additional permanent right-of-way and temporary working rights along the route. In its Reasons for Decision dated January 1982, the Board granted authority to take the said lands in all but two cases. In one case, where the Applicant's evidence of need for the additional lands was found by the Board to be insufficient, authorization was denied. In the second case, authority to take the required lands was granted conditionally, subject to the submission of further evidence.

The second TransCanada application was heard at North Bay on 30 March 1982. The application was made in respect of 92.8 kilometres of pipeline right-of-way along the Nipissing portion of the North Bay Shortcut. Involving one property and one landowner, the application concerned permanent and temporary right-of-way along the pipeline route. The Board, in its Reasons for Decision of April 1982, granted TransCanada the authority to take the additional required lands.

In the third application, TransCanada requested additional permanent and temporary right-of-way along the 108-kilometre Ottawa portion of the North Bay Shortcut. The hearing was convened in Ottawa on 13 April 1982 and involved 6 properties and 6 landowners. In its Reasons for Decision issued in May 1982, the Board granted TransCanada the authority to take the required lands, excepting those properties for which settlements were made during the hearing.

During 1982, Trans Québec & Maritimes Pipeline Inc. also made three applications to the Board under section 74 of the Act. Board decisions regarding these applications were issued in March, May and August 1982. In the first application, Trans Québec & Maritimes requested additional permanent right-of-way, temporary working rights and fee simple lands along 83.6 kilometres of its pipeline route between Boisbriand and Trois-Rivières. The hearing held in Trois-Rivières on 1 and 2 March 1982, involved 55 properties and 50 landowners. In its Reasons for Decision issued in March 1982, the Board granted TQM authority to take all the required lands, excepting one property for which TQM withdrew its application.

The second TQM application was heard at Quebec City on 20 April 1982. The application was made in respect of 64 kilometres of pipeline right-of-way near the St-Maurice River and between Ste-

Anne-de-la-Pérade and St-Augustin-de-Desmares. Involving 131 properties and 97 landowners, the application concerned additional permanent right-of-way, temporary working rights and fee simple lands along the pipeline route. The Board, in its Reasons for Decisions issued in May 1982, granted TQM authority to take the additional required lands, excepting those properties for which settlements were made prior to the end of the hearing.

The third TQM application, heard on 24 August 1982 in Quebec City, concerned 41.62 kilometres of pipeline right-of-way between the St-Maurice River and the Bastican River. The application, in which TQM requested additional permanent and temporary right-of-way, involved 17 properties and 10 landowners. The Board, in its Reasons for Decision dated August 1982, granted authority to take all the additional lands required for the efficient construction, maintenance and operation of the pipeline.

Hearings on Electrical Matters

Ontario Hydro

In April 1982, the Board released its Reasons for Decision recommending the approval of a certificate of public convenience and necessity to Ontario Hydro for an international power line and of an export licence to Ontario Hydro. The applications were the subject of a public hearing held in Ottawa in January.

The certificate would have authorized the construction and operation of a 300 kilovolt, direct-current line to run 103 kilometres under Lake Erie from Nanticoke, Ontario, to near Erie, Pennsylvania.

The licence would have authorized the export of 1 000 megawatts of firm power and up to 8 760 gigawatt hours per year of associated energy for a ten-year period commencing in 1985. The recipient of the export would have been General Public Utilities of New Jersey (GPU).

The certificate and licence were never issued, as on 14 June 1982 Ontario Hydro informed the Board that GPU had cancelled the project.

New Brunswick Electric Power Commission

The Board held a public hearing in November and December 1981 on an application by The New Brunswick Electric Power Commission for ten licences to export electric power, four of which would involve exports from Point Lepreau, Atlantic Canada's first nuclear generating unit.

In April 1982, the Board released its decision approving the issuance of nine of the applied-for licences, including three involving Point Lepreau exports.

One licence request involving the export of a maximum of 130 megawatts of firm power, was denied.

On 3 September 1982, the Governor in Council approved the nine licences.

Following release of the Board's decision, New Brunswick Power applied in July 1982 to have the Board review its decision to deny the 130 megawatts export from Point Lepreau. In early November, the Board held a hearing on the application and delivered its decision in late December. In its decision the Board approved the issuance of the licence to export the 130 megawatts of firm power, its previous concerns over the export having been satisfied.

Cominco Ltd.

Late in December the Board released its Reasons for Decision approving the issuance to Cominco Ltd. of four electric power export licences for a five-year period, from 1 January 1983 to 31 December 1987.

Cominco's application was the subject of a public hearing in Vancouver in October.

The four licences, which received the approval of the Governor in Council, permit Cominco to export electric power and energy as carrier transfers for return to Canada, as sale, equichange, storage or adjustment transfers of interruptible energy, as equichange transfers of miscellaneous firm energy, and as unscheduled circulating power and energy.

Tolls and Tariffs

Alberta Natural Gas Company Ltd.

In May, the Board released its decision arising from the public hearing which was held in March 1982 concerning the tolls and tariffs to be charged by Alberta Natural Gas Company Ltd. for the transmission of natural gas through its pipeline system for Alberta and Southern Gas Co. Ltd, Westcoast Transmission Company Limited and Foothills Pipe Lines (South B.C.) Ltd.

The previously existing tolls were set by tariff order No. TG-1-80 issued to ANG following a May 1980 Decision. The Company had applied to the Board for an increase in its rate of return on rate base from 11.5 percent to 15.18 percent per annum, effective 1 January 1982.

The Board determined that a rate of return on rate base of 13.3 percent per annum effective 1 May 1982 would be just and reasonable.

ICG Transmission Holdings Ltd.

In May, the Board issued its Reasons for Decision on an application by ICG Transmission Holdings Ltd. for approval of tolls to be charged for the transportation of natural gas. The application was the subject of a public hearing held in Ottawa in March 1982.

The Company operates a natural gas pipeline transmission system in Manitoba and Ontario for domestic and export sales.

The Board authorized for 1982 a rate of return on rate base of 15.37 percent per annum effective 15 May 1982. The Company had applied for an increase from 12.25 percent to 16.04 percent.

Foothills Pipe Lines (Yukon) Ltd.

In late August the Board released its decision on an application by Foothills Pipe Lines (Yukon) Ltd. concerning tolls and other financial matters related to the prebuild portion of the Canadian section of the Alaska Highway Natural Gas Pipeline. A public hearing was held on this application at the end of June and beginning of July.

The prebuild portion of the pipeline consists of a Western Leg extending some 213 kilometres from Caroline, Alberta, to Kingsgate, British Columbia, and an Eastern Leg extending some 636 kilometres from Caroline, Alberta to Monchy, Saskatchewan. In its application, Foothills applied for certain changes in the tolls being charged on the Western Leg, which has been in operation since 1 October 1981, and for the resolution of certain outstanding issues before the Eastern Leg went into operation on 1 September 1982.

The Company was seeking, among other changes, to have the Eastern Leg Final Design Cost Estimates amended to reflect design changes already approved by the Northern Pipeline Agency. These design changes would allow a more efficient utilization of the combined NOVA/Foothills (Yukon) system. The resultant increase in the estimates, as approved by the National Energy Board, totalled approximately $33 million.

For toll purposes, the Board approved the inclusion of the actual costs of construction, up to 31 March 1982, in the rate base for the Western Leg. In the case of the Eastern Leg, the Board approved the inclusion in the rate base of actual construction costs incurred in 1981 and the Company's estimate of costs to be incurred in 1982 to complete construction.

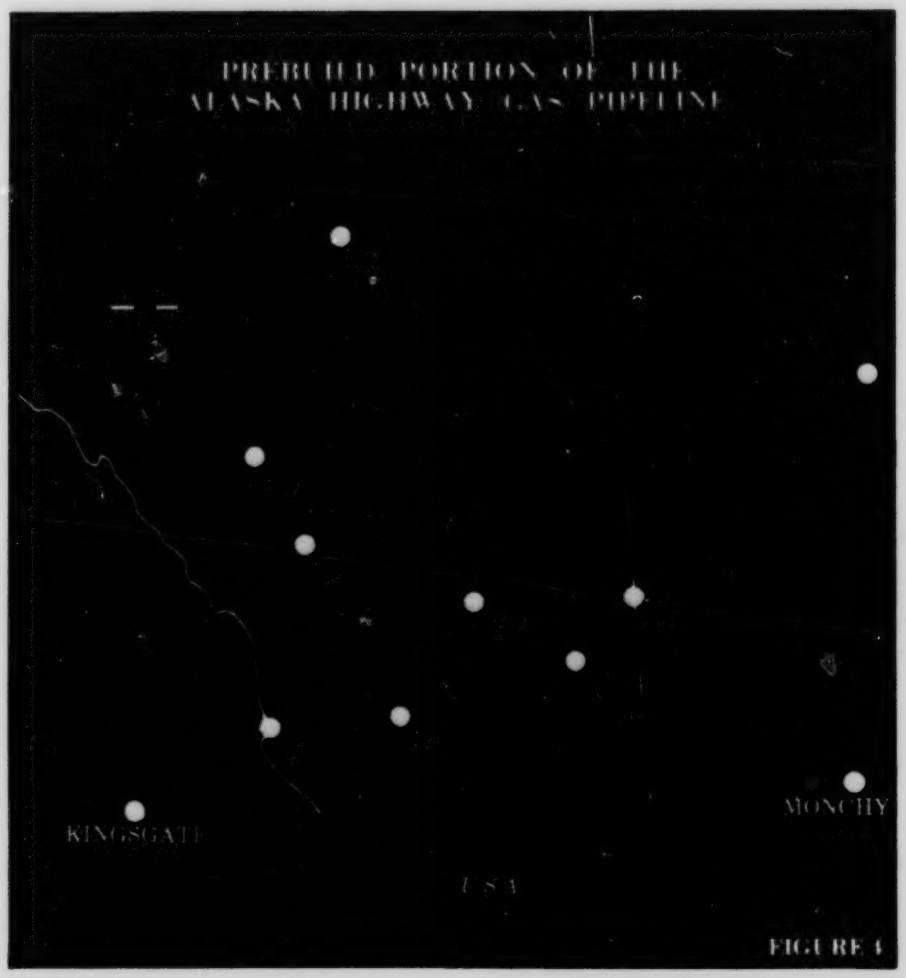


FIGURE 4

Among other issues reviewed by the Board was a request by Foothills to reduce the current rate of depreciation on the prebuild facilities to four percent per annum. The Board granted this request.

The Company also asked permission to include in the prebuild cost of service the recovery of amounts related to mainline preliminary expenditures totalling $204 million. The mainline refers to the Canadian portion of the Alaska Highway Natural Gas Pipeline which will transport Alaskan gas (i.e., everything north of the prebuild). The Board approved this request, but reduced the total to be recovered at this time by approximately 40 percent, and directed that Foothills undertake to refund these amounts when the mainline goes into operation.

In September, the Board received an application from Foothills for a review of that part of the Board's August decision which concerned depreciation rates. The Board re-opened the hearing in October to examine this and other matters.

The Board's Reasons for Decision were released in November. The Board granted Foothills' request to modify the basis on which rates of depreciation were established, in order to conform with the terms of Foothills' loan agreement with the banks. In addition, the Board reaffirmed its decision that costs associated with the Dempster Lateral* should be excluded from mainline preliminary expenditures in calculating the prebuild rate base.

* The proposed pipeline to transport Canadian natural gas from the Mackenzie Delta along a route generally parallel to the Dempster Highway, connecting with the Alaska Highway Natural Gas Pipeline near Whitehorse. The Dempster Lateral comprises Zones 10 and 11 of the Foothills (Yukon) pipeline.

TransCanada PipeLines Limited

In July 1982, the Board released its Reasons for Decision on an application by TransCanada for an increase in the tolls it charges for the transportation of natural gas in Saskatchewan, Manitoba, Ontario, and Quebec.

The new tolls were, on average, ten cents a gigajoule higher than those previously allowed. This increase was primarily related to the construction of new pipeline facilities, which had caused the rate base to increase by 50 percent, to $2.4 billion. With the cost of construction of pipelines much higher today than in earlier years, and with the earlier facilities being partly depreciated, there was a significant increase in capital-related costs (depreciation, interest expense, return on equity and related income taxes), which form on average about 80 percent of all costs in the tariff (excluding fuel).

In establishing the new tolls and tariffs, the NEB allowed TransCanada a return of 13.88 percent per annum on its rate base, compared with the 14.31 percent applied for and the 12.63 percent previously authorized.

TransCanada was provided with the opportunity to earn a return on equity of 16 percent per annum compared with 17.25 percent applied for and 15.75 percent previously authorized. This rate of return is based on a deemed capital structure with a 28 percent common equity component compared with 30 percent previously.

The Board also authorized an amount of $304.6 million for operating and maintenance expenses, which is $3.3 million less than applied for. This reduction was due mainly to a decrease of $2.4 million in the amount allowed for salaries and employee benefits. The Board allowed an increase of 12 percent in 1982 reflecting increases already granted and an increase of 7 percent in 1983.

TransCanada's application for new tolls was the subject of a public hearing held in Ottawa from 11 May to 3 June 1982. The principal issue raised was the appropriateness of the method by which TransCanada calculated its allowance for income taxes. The Board decided that the use of the flow-through method rather than the normalized method of calculating income taxes was more appropriate in current circumstances. Under the flow-through method the Board approves tolls which provide an allowance for income taxes based on the actual taxes payable, rather than an allowance based on accounting income. The use of the flow-through method for calculating the tax allowance meant that the increase in the average toll was limited to 16 percent instead of 24 percent, representing a reduction in the Company's cash revenue of $89 million, but without affecting the after-tax profit from pipeline operations.

In its decision the Board also appproved TransCanada's request for the extension of the Eastern Delivery Area from Boisbriand to a point on the mainline of the Trans Québec & Maritimes Pipeline Inc. system on the north shore of the St. Lawrence River, near Quebec City, for both toll design and cost allocation purposes.

Manito Pipelines Ltd.

Manito is the operator of an oil pipeline system which extends 184 kilometres from Blackfoot, Alberta to Kerrobert, Saskatchewan.

The Company asked the Board to approve tolls, effective 1 October 1982, for

the transportation of heavy crude oil and condensate in Alberta and Saskatchewan. These tolls were based on a rate of return on rate base of 17.11 percent per annum.

This was the first time Manito's tolls were examined through a public hearing. The hearing was held at Ottawa in November. In late December, the Board issued Order No. TO-3-82 to Manito fixing tolls effective 1 January 1983. The Reasons for Decision were released on 4 February 1983. The Board allowed a rate of return on rate base of 14.97 percent per annum.

Inquiry Hearings

Developmental Pricing

As reported in last year's annual report, as Phase II of the Board's 1981 TransCanada Rate Hearing, the Board held an inquiry at the request of the Minister for the purposes of reporting to him on the necessity for developmental prices of natural gas in the domestic market and any other matters relevant to the pricing of natural gas in that market. The Board delivered its report to the Minister in November 1981.

In November 1982, the Minister released the Board's report arising from the inquiry. Among its findings and recommendations were:

—the potential quantities of low cost heavy fuel oil need to be reduced if natural gas is to penetrate industrial markets;

—federal and provincial governments should formulate a policy for competing fuels in each region so that consumers will have a sound basis on which to make fuel choices rationally;

—a development price is essential for new franchise areas but not for existing well-established distribution areas. In its report the Board proposed a scheme of developmental pricing for new areas;

—the traditional cost-based "Mcf-mile" (cost of transporting one thousand cubic feet of gas one mile) method of allocating transmission costs in the TransCanada system should be retained;

—the three-part pricing system of domestic gas pricing, consisting of the Alberta Border Price plus the two-part transportation toll should be retained;

—TransCanada and TQM should be regarded as one integrated pipeline system for cost allocation and, thus, pricing purposes;

—the existing Eastern Zone on the TransCanada system should be retained for pricing purposes but three sub-zones should be established for cost allocation purposes: the current Eastern Zone; Quebec; New Brunswick and Nova Scotia;*

—the Federal Government should establish three separate programs of financial assistance to reduce the wholesale prices for natural gas sales in the TransCanada/TQM system;

(a) a transmission subsidy program to reduce the authorized cost of service used to establish cost-based transportation tolls under Part IV of the Act;

(b) a price equalization program to subsidize the price of gas in the two easterly TransCanada sub-zones of the Eastern Zone so that it is equal throughout the whole TransCanada Eastern Zone;

(c) a developmental price program under which developmental prices would be prescribed under Part III of the Energy Administration Act and incorporated into TransCanada's tariff. The Federal Government would pay TransCanada the difference between the revenue that would have been received under the non-developmental prices and the revenue actually received under the prescribed developmental prices.

In his statement upon releasing the Board's report, the Minister noted: "The NEB's pricing report contains many significant and productive recommendations on natural gas pricing and marketing. Since the NEB submitted its findings, my officials have been working on the development of the proposals and the majority have now been implemented."

Hearings/Applications In Process

TransCanada PipeLines Limited

In October, TransCanada applied for a certificate authorizing the construction of additional pipeline facilities.

* Additional aspects of the definition of the Eastern Zone are contained in the Report.

The Board is being asked to approve the construction of additional facilities on the Niagara line portion of the TransCanada system in Ontario to meet applied-for export sales and transportation requirements, in addition to forecast domestic sales and transportation requirements on the Niagara line. In 1984, TransCanada proposes to build some 102.8 kilometres of pipeline and one new station consisting of three 12 megawatt compressors and metering facilities. For 1985, the Company seeks authorization to install one new 12 megawatt compressor at Station 209. The total cost of the facilities is estimated at $349.7 million.

The application is conditional, in part, on receipt of authorization for export of volumes considered by the Board in the Gas Export Omnibus Hearing.

Trans Mountain Pipe Line Company Ltd.

Trans Mountain Pipe Line Company Ltd. has applied for approval of an increase in the tolls and tariffs it charges for the transportation of crude oil and other liquid hydrocarbons.

The Company is asking the Board to approve tolls effective 1 January 1983 based on a rate of return on rate base after taxes of 16.175 percent per annum (14.25 percent on debt; 17.0 percent on common equity).

Westcoast Transmission Company Limited

In December 1982, Westcoast Transmission Company Limited applied for certain orders respecting the tolls it charges for natural gas transmitted and sold to its domestic and export customers.

The Company has also submitted its net Operating and Maintenance Budget for 1983, which totals $65,363,000 compared with $65,941,000 in 1982.

Westcoast is seeking the approval of an increase in its return on rate base, before income taxes, from 17.9 percent to 18.97 percent.

Trans Québec & Maritimes Pipeline Inc.

On 30 November, the Board commenced a public hearing on an application by Trans Québec & Maritimes Pipeline Inc. (TQM) for orders fixing the just and reasonable tolls to be charged by TQM for the transmission of natural gas and for approval of a tariff for such services.

The tariff hearing will deal with the method of regulation and the form of the gas transportation tariff as well as matters relating to rate base, cost of service, income taxes, and return on rate base. The hearing continued into 1983.

Hydro Québec

Hydro Québec applied in December 1982 for four licences to export power and energy to various U.S. utilities as follows: 111 000 GW.h of interruptible energy to the Power Authority of the State of New York (PASNY) to be exported over thirteen years from 1 September 1984 to 31 August 1997 (the period of delivery could be extended by up to five additional years); surplus power and energy pursuant to the Interconnection Agreements between Hydro Québec and PASNY and Hydro Québec and Niagara Mohawk Power Corporation (NMPC); blocks of firm power and energy to various utilities in the State of New York; and equichange transfers of firm power and energy with NMPC to supply the St. Régis Indian Reserve near the border between Quebec and the State of New York. The last three licences are requested for a nineteen-year term from 1 January 1984 to 31 December 2002.

The Board plans to hold a public hearing in 1983 to deal with this application.

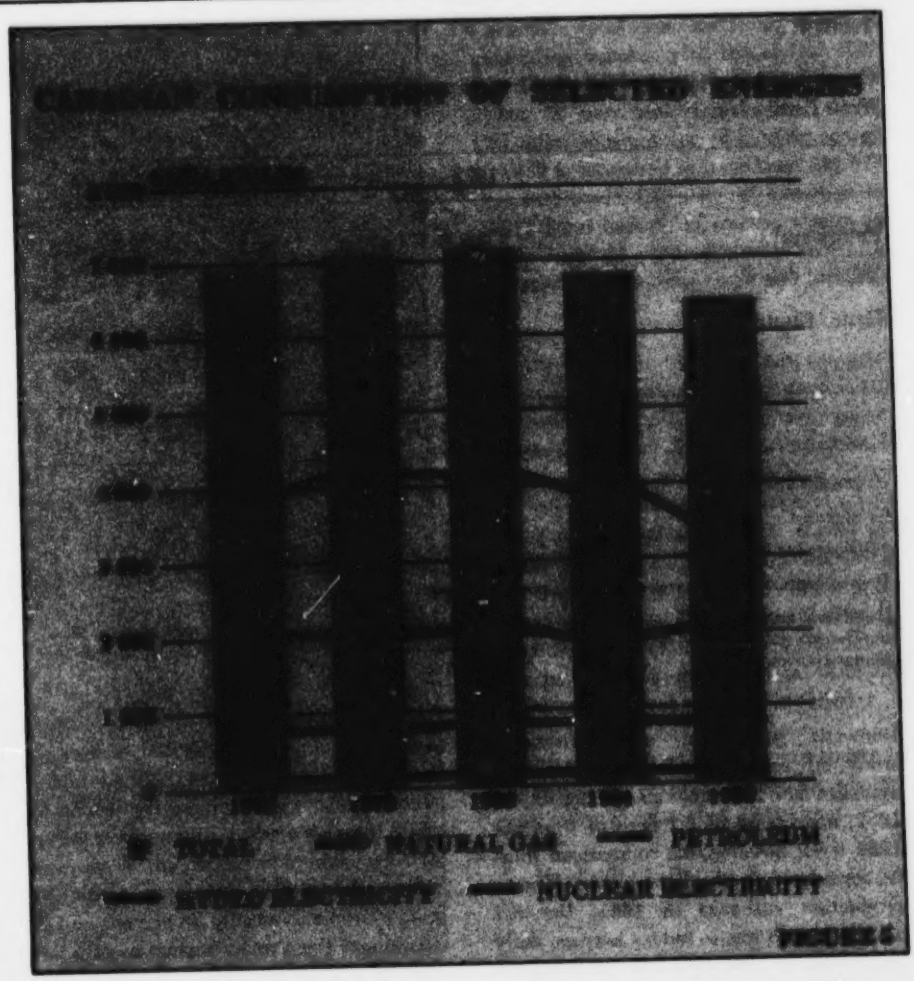
GENERAL REVIEW OF THE ENERGY SECTOR

SUPPLY AND DEMAND

Canada endured in 1982 the most severe economic recession since the Depression of the 1930's. Preliminary estimates for 1982 suggest that real GNP fell by about six percent from its 1981 level. Large declines in personal consumer expenditures and in gross fixed capital formation together with a substantial decumulation of non-farm business inventories were the major factors contributing to the decline in total output. Moderate growth in merchandise export sales, coupled with a marked slowdown in import activity during the first eleven months of the year, resulted in a record 16-billion dollar surplus in our merchandise trade balance.

After rising at very rapid rates in the first half of the year, price and wage rate increases subsided noticeably during the second half in response to pervasive weakness in aggregate demand and the adoption of income restraint programs by the Federal Government, the governments of several Provinces and by the private sector.

In the energy sector, world oil prices in 1982 continued to fall as oil demand fell dramatically in response to depressed levels of economic activity throughout the world. Data as of November 1982 indicate that the average price paid by Canadians for imported crude oil at port of loading (F.O.B. price) had declined by about 11 percent from the March 1981 peak level. Domestic oil prices in 1982 increased as scheduled in the Agreements between the Federal Government and the governments of the producing provinces. On average, the price of domestic crude oil at the Montreal refinery gate increased by about 32 percent from its 1981 level although it remained substantially below international prices. The wholesale price of natural gas at the Toronto city gate remained at approximately 65 percent of the price of oil at the Toronto refinery gate as established in the Federal/Alberta Agreement. On average, the wholesale price of natural gas at the Toronto city gate increased by about 25 percent from its 1981 level.



The continuing recession, combined with sizeable increases in domestic energy prices, particularly of oil and gas, resulted in a decline in secondary energy demand in the majority of sectors in 1982. Overall, secondary energy demand declined by about two percent in 1982 compared with 1981.

The demand for particular fuels followed a mixed trend across sectors in 1982. While the demand for natural gas in the residential/commercial sector increased substantially under the impetus of lower prices of gas relative to oil and federal Government off-oil initiatives, demand in the industrial sector registered a sizeable decline. Demand for electricity, however, changed only slightly. The recent trend towards a decline in demand for oil, brought about by conservation measures and substitution by alternative fuels, continued in 1982. The decline was particularly severe in the residential/commercial sector.

TABLE 5

Canadian Consumption of Selected Energies
Unit: Petajoules

	1978	1979	1980	1981(p)	1982(e)
Petroleum*	3 998.6	4 174.6	4 164.9	3 902.3	3 493.0
Natural Gas	2 014.2	2 005.1	2 010.1	1 966.3	2 015.3
Hydro Electricity	779.2	775.6	813.1	832.5	802.2
Nuclear Electricity	106.0	119.8	129.1	136.1	131.1
Total	6 898.0	7 075.1	7 117.2	6 837.2	6 441.6

(p) preliminary

(e) estimates

* Includes LPG's

Data on consumption of petroleum includes non energy use.

Based on Statistics Canada publication 45-004. These statistics are on a different basis than those in Statistics Canada publication 57-003 which is used in the preparation of forecasts for Board Energy Supply and Demand reports.

Domestic production of conventional crude oil and equivalent hydrocarbons averaged 217 526 cubic metres per day in 1982, a decrease of 1.2 percent from the 1981 level; however,this comparison must be considered in the light of the Alberta production cutbacks in 1981, the net effect of which was to reduce average daily production in 1981 by 7 186 cubic metres.

As in the previous year, production of conventional crude oil in 1982 was below capacity levels, with an average of nine percent of the productive capacity in western Canada shut-in. However, the shut-in percentage declined from an average of about 19 percent in the first half of 1982 to less than four percent in the second half of 1982.

The output of synthetic oil averaged 19 064 cubic metres per day in 1982, an increase of 7.9 percent from the 1982 level. The two synthetic crude oil plants encountered a number of operating problems, including a fire at the compressor station of the Suncor plant in January, which shut down the upgrading section for more than six months, and a power failure at the Syncrude plant in September, which affected the cokers. As a result, the plants produced at only 29 percent and 66 percent of their rated capacities of 9 500 and 20 000 cubic metres per day, respectively.

Because of sharply falling product demand and the high cost of inventory maintenance, refineries ran 13.7 percent less crude in 1982 than in 1981. In the face of lower oil consumption, four refiners have announced plans to curtail refinery operations: in Montreal, Texaco has already closed its plant, BP plans to shut down its refinery in the spring of 1983 and Gulf will reduce throughput capacity; in Ontario, Shell intends to mothball its Oakville operation in the spring while Gulf will cut back capacity at Clarkson; in British Columbia, Gulf is planning to stop production at its Kamloops plant. Industry spokesmen considered it likely that further reductions in capacity would occur.

Direct exports of crude oil and equivalent hydrocarbons to U.S. refiners in 1982 were 24 818 cubic metres per day as compared to the 1981 level of 15 798 cubic metres per day; exports under exchange agreements amounted to 10 039 cubic metres per day, a decline of 7.3 percent over 1981. Bulk exports of refined petroleum products to U.S. customers reached a total of 10 670 cubic metres per day this year, as opposed to 14 836 cubic metres per day a year ago. Licensed exports of aviation and marine fuels used in international transportation at 7 600 cubic metres per day this year were 496 cubic metres per day higher than in 1981. Natural gas production* in Canada increased by 2.0 percent from 68 105 million cubic metres in 1981 to an estimated 69 469 million cubic metres in 1982. Net sales* of natural gas in Canada during 1982 increased by 1 704 million cubic metres from 1981 levels, an increase of about 4.0 percent. This increase was primarily due to a conversion from oil to natural gas.

Exports of natural gas to the United States amounted to 22 201 million cubic metres or 32.0 percent of total production, an increase of 2.9 percent over 1981 levels. The increase was due mainly to the commencement of exports on the prebuild sections of the Foothills pipeline. Revenues for 1982 were 9.1 percent higher than in 1981, reflecting the increase in sales as well as the increase in the export price of natural gas on 1 April 1981.

* Preliminary

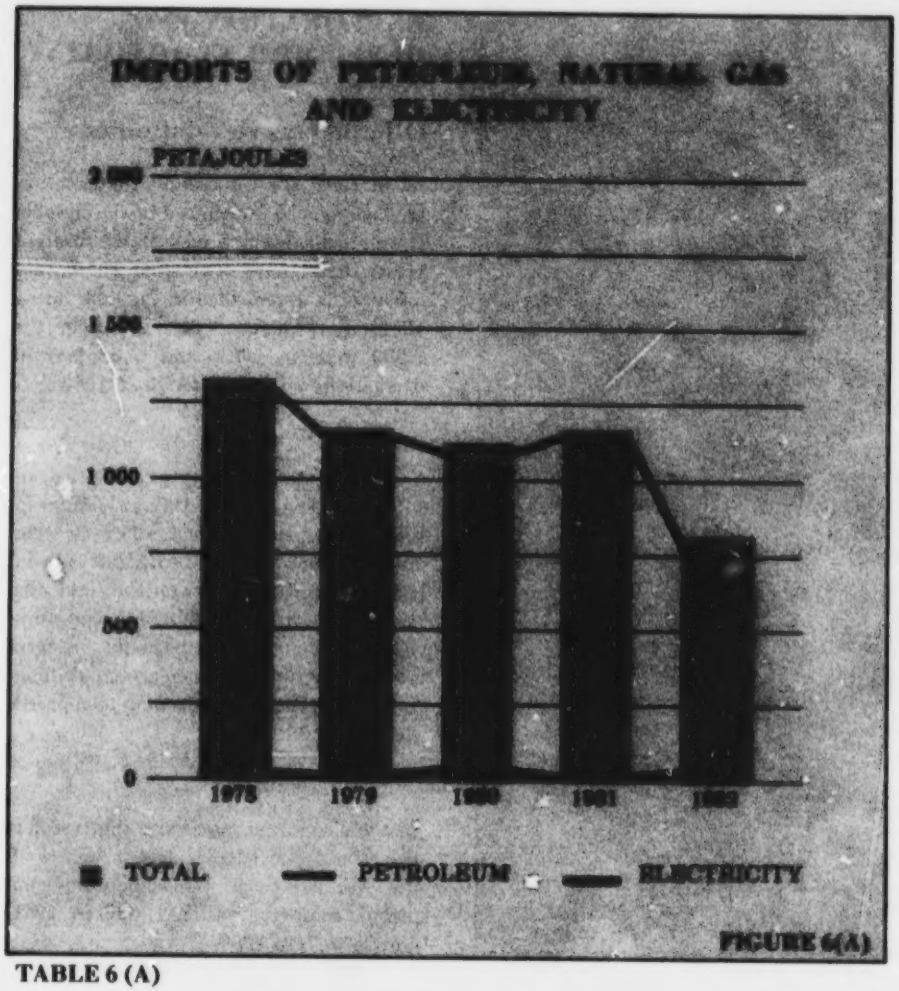


FIGURE 6(A)

Canada's total net installed electrical generating capability at the end of 1982 is estimated at 81 800 megawatts, up about 9 per cent from 1981. Total Canadian consumption of electric energy in 1982 is estimated to have been 344 029 gigawatt hours, 0.2 per cent less than in 1981. Total exports of electric energy in 1982 were 34 220 gigawatt hours, a decrease of 3 percent over the previous year.

For the first six months of 1982 the total export sales of electricity decreased by 17 percent below the level of the same period the previous year. A significant portion of this decrease occurred on the West Coast due to high water conditions in the U.S. Pacific Northwest region during the winter of 1981-82. The other major factor was the generally weakened demand for electricity in the United States. Export levels recovered significantly in the last 6 months and a record high level of 3 529 gigawatt hours was achieved in October.

Hydro continues to be the main source of electricity for export, averaging 60 per cent, followed by coal at 32 per cent.

TABLE 6 (A)

Imports of Petroleum, Natural Gas and Electricity
Unit: Petajoules

	1978	1979	1980	1981(p)	1982(e)
Petroleum	1 317.5	1 157.6	1 112.3	1 160.4	796.7
Electricity	22.1	18.9	31.0	15.8	30.1
Natural Gas*	0.1	0.1	0.1	0.1	0.2
Total	1 339.7	1 176.6	1 143.4	1 176.3	827.0

* Insufficient quantities to show on graph
(p) preliminary (e) estimates

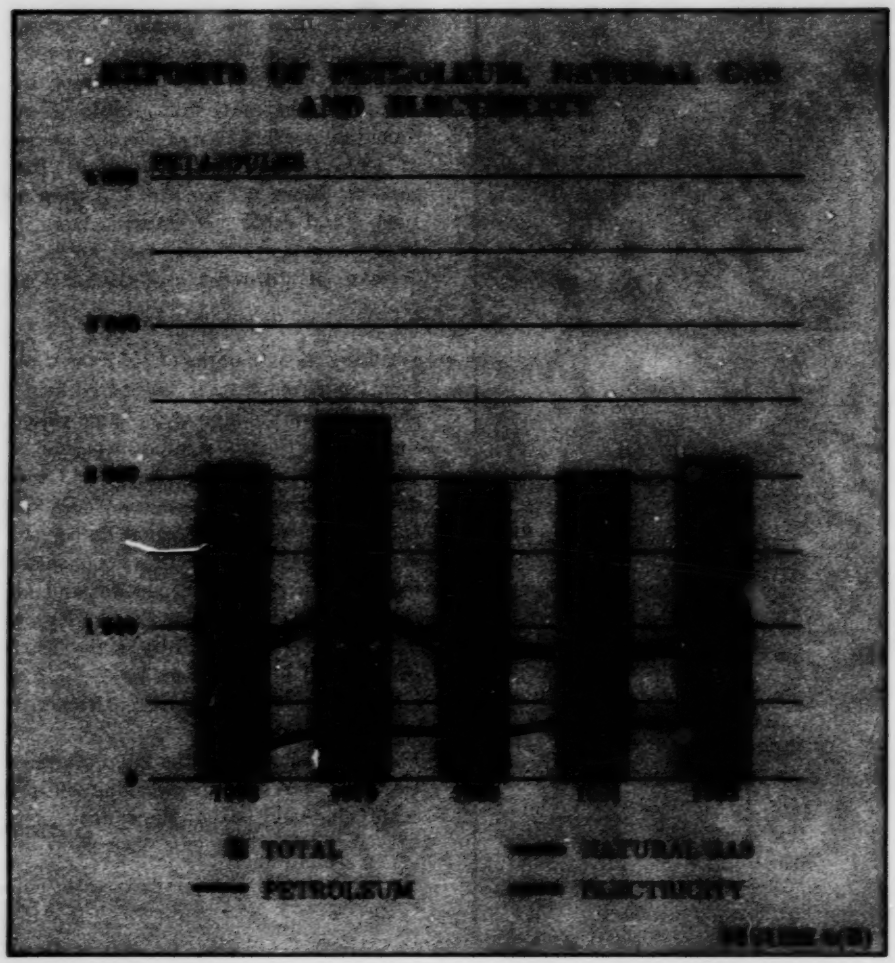


TABLE 6 (B)

Exports of Petroleum, Natural Gas and Electricity
Unit: Petajoules

	1978	1979	1980	1981(p)	1982(e)
Natural Gas	978.7	1 089.7	863.1	823.9	850.3
Petroleum	881.9	1 002.0	810.3	826.2	927.4
Electricity	227.9	331.1	318.4	373.2	361.1
Total	2 088.5	2 422.8	1 991.8	2 023.3	2 138.8

(p) preliminary (e) estimates

EXPLORATION AND DEVELOPMENT ACTIVITY

Oil and Gas Development

As in 1981, the Canadian drilling industry experienced a decrease in the number of wells drilled compared with the previous year. Preliminary estimates show that 6 000 wells were drilled in Canada during 1982, a 17 percent decrease from the 7 200 wells in 1981, and a 35 percent decrease from the 9 200 wells in 1980.

A total of 4 750 wells were drilled in Alberta during 1982, 1 100 fewer than in 1981. In British Columbia, 105 wells were drilled in 1982 compared with 200 wells in 1981, and in Saskatchewan the total was 760 wells, compared with 830 the previous year. Manitoba was the only western province to show an increase in drilling activity in 1982, with 190 wells, compared with 70 in 1981.

In the Territories mainland, the Beaufort Sea, the Arctic Islands, and in waters off the Atlantic coast, 53 wells were completed, compared with 21 wells in 1981, and 26 wells in 1980.

At year end 1982, the number of drilling rigs available in Canada was 495, up slightly from 471 a year earlier. Utilization of drilling rigs was 54 percent in 1982, compared with 59 percent in 1981.

There were 68 geophysical crews active in Canada at year end, compared with 73 a year earlier. Much of the geophysical activity was in search of oil in Devonian pinnacle reefs in northwestern (Zama-Shekilie-Vardie) and central (Fenn-Rumsey-Stettler) areas of Alberta.

Oil production qualifying for the new oil reference price (NORP) coupled with royalty relief for discovery wells generated a high level of drilling activity in several regions.

The following is a summary of significant activity during 1982. (Locations are identified on the accompanying map).

ALBERTA

Drilling activity in Alberta during 1982 was down 19 percent, compared with 1981. The Zama-Shekilie-Vardie area (1), in the extreme northwestern part of the province, continued to be very active in the search for oil and gas in Devonian pinnacle reefs. During the latter part of 1982, the Fenn-Rumsey-Stettler area (2) also became quite active in the search for oil in Devonian pinnacle reefs. Another area where drilling activity continued at a rapid pace during 1982 was the Golden-Evi-Lubicon-Slave area (3), where multizones yielded mostly oil. Discoveries of oil and gas were still being made in the Deep Basin (4), although drilling activity was reduced compared with previous years. The West Pembina-Niton area (5) was active and Devonian pinnacle reef oil discoveries were reported as well as extensions to existing oil pools. Activity in the heavy oil belt near Lloydminster (6) continued at a reduced rate.

BRITISH COLUMBIA

Drilling activity was reduced significantly

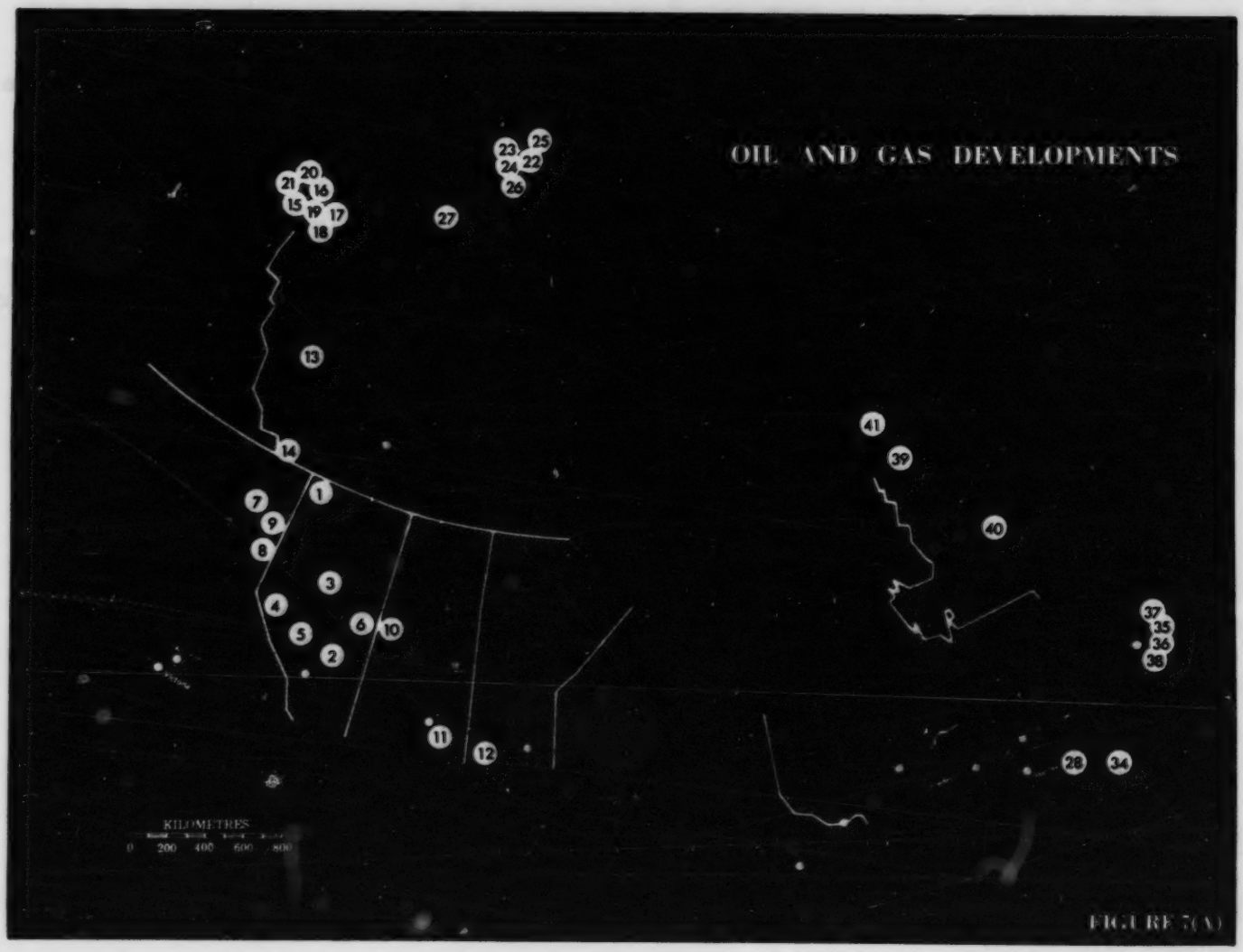


FIGURE 7(A)

in British Columbia from the previous year. Gas discoveries were reported in the Foothills at Sikanni (7), south of Pocketknife, and in the Grizzly-Thunder area (8). There was some drilling activity in and around established oil pools in the Fort St. John area (9), which resulted from the new oil reference price (NORP) incentive.

SASKATCHEWAN

Drilling was down about 11 percent in Saskatchewan during 1982, compared with 1981. As in previous years, drilling activity was concentrated in the heavy oil belt in the west-central portion (10) of the province. Oil discoveries and/or field extensions were reported in the Estevan-Steelman area (11).

MANITOBA

There was an oil boom at Waskada (12), located in the southwest corner of the province during 1982. The productive zones are of Mississippian and Jurassic age and the wells qualify for the new oil reference price (NORP). Drilling activity in Manitoba during 1982 was more than 2 1/2 times that experienced in 1981.

YUKON AND NORTHWEST TERRITORIES MAINLAND

Development of the Norman Wells field (13) for the purpose of a water flood, resulted in the drilling of 29 wells in 1982.

Amoco Pointed Mountain D-1 (L-68) (14) was drilled as a development well in the Pointed Mountain gas field. No hydrocarbons were found and the well was abandoned.

Paramount et al Big Island E-53 (14), which commenced drilling in 1981, was abandoned due to technical problems.

MACKENZIE DELTA-BEAUFORT SEA

Seven wells commenced drilling this year. The wells were Gulf et al Tarsiut N-44A (15), Gulf et al Kiggavik A-43 (15), Dome Aiverk 2I-45 (16), Dome Texaco et al Uviluk P-66 (17), Esso Pex West Atkinson L-17 (18), Esso PEX Home et al Natagnak 0-59 (18), and Esso Pex Home et al Ityok I-27 (19).

Tarsiut N-44A, and Kiggavik A-43 (15) were the second and third delineation wells drilled to follow-up to the Tarsiut A-25 oil discovery of 1980. Tarsiut N-44A tested oil, however, a considerable amount of water was also encountered. No oil was found at Kiggavik A-43.

Gulf et al Tarsiut N-44 (15), which commenced drilling in 1981 as the first follow-up to the Tarsiut A-25 oil discovery of 1980 was completed in 1982 after finding oil.

Aiverk 2I-45 (16), a wildcat well, was suspended at the end of the drilling season and is expected to be re-entered next year. Uvikuk P-66 (17), and Ityok I-27 (19) were drilling at year end.

West Atkinson L-17 (18), a wildcat well, provided some encouragement when oil was discovered in a new zone after the primary objective was found to be poorly developed. The well is located 10 kilometres northwest of the Imperial Atkinson H-25 oil discovery of 1970.

Dome Nerlerk M-98 (20), Dome Hunt Irkaluk B-35 (20), Dome Hunt Kanalooak J-94 (20), and Dome Superior Orvilruk 0-03 (21) were all re-entered in 1982, and were abandoned after poor test results.

ARCTIC ISLANDS

A total of six wells commenced drilling in the Arctic Islands during 1982.

Cisco C-42 (22), a follow-up to the Cisco B-66 oil and gas discovery of 1981, found only minor amounts of oil and gas. A second well, Cisco K-58 was drilling at year end (22).

Whitefish P-25 (24), a second follow-up to the Whitefish H-63 gas discovery of 1979 found water on tests.

Wildcat well Cape Mamen F-42 (23) and Sculpin E-08 (25) both found water, while Marryatt K-71 (26) was still drilling at year end.

Chevron Muskox D-87 (27), which commenced drilling in 1981, found water and was abandoned in 1982.

EAST COAST OFFSHORE

A total of eleven wells commenced drilling in 1982 off the East Coast; one was completed, nine were drilling at year end, and one was suspended.

Increased activity was witnessed on the Scotian Shelf subsequent to an encouraging two well delineation of the Venture structure.

Six wells, which commenced drilling this year on the Scotian Shelf were at varying stages of drilling or evaluation at year end. The wells are Mobil Texaco Pex Olympia A-12 (28), Mobil Texaco Pex South Venture 0-59 (29), Petro-Canada et al North Banquereau I-13 (30), Petro-Canada et al West Esperanto B-78 (31), Shell et al Shubencadie H-100 (32), and Mobil et al Bluenose G-47A (33). All were wildcat wells.

Mobil Texaco Venture B-43 (34), the second delineation well on the Venture

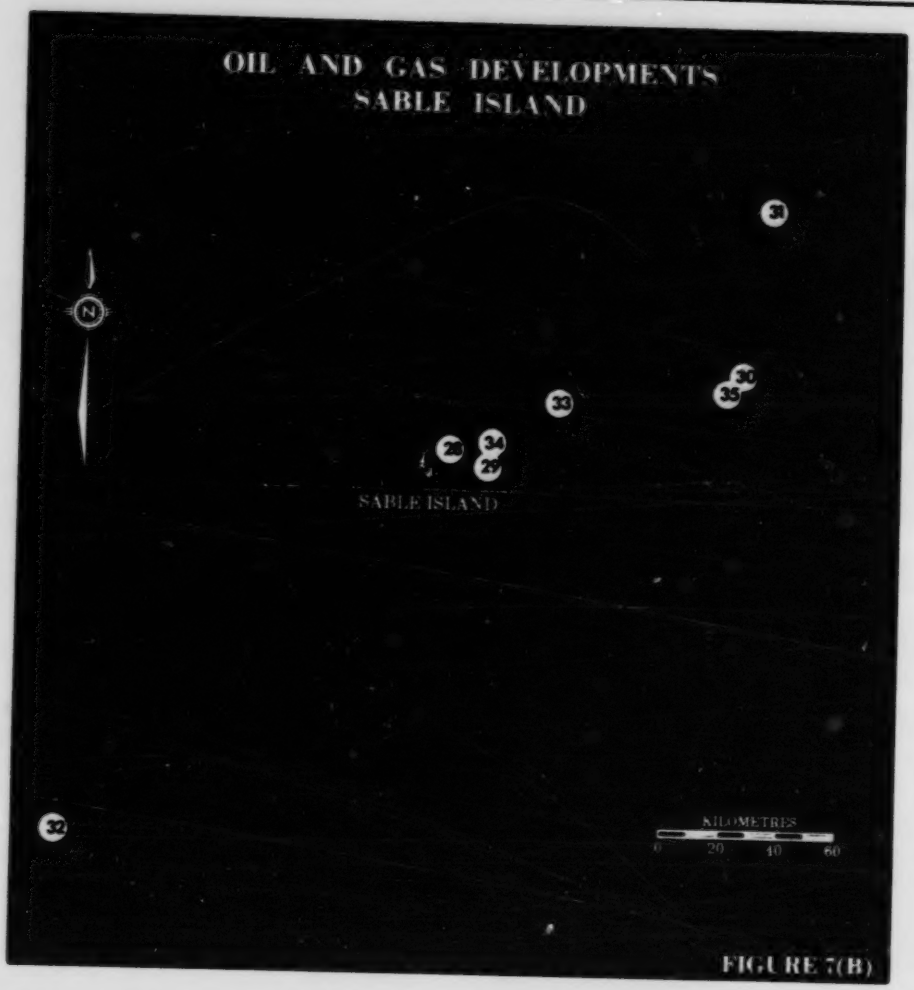


FIGURE 7(B)

structure, which commenced drilling in 1981 was completed in 1982 after significant amounts of gas and condensate were found. Petro-Canada et al Banquereau C-21 (35), which also commenced drilling in 1981, and was completed in 1982, was classified as a non-commercial gas discovery.

Four wildcat wells commenced drilling on the Grand Banks in 1982. The wells were Mobil Bonanza M-71 (36), Mobil et al North Dana I-43 (37), and Mobil et al Linnet E-63 (38). Bonanza M-71 (36) and North Dana I-43 (37) were drilling at year end, while Linnet E-63 (38) was abandoned after no productive zone was identified. Hibernia I-46 (39), the sixth delineation well on the Hibernia structure, was drilling at year end.

Mobil et al Nautilus C-92 (40), a wildcat well which commenced drilling in 1981, was completed in 1982 as a non-commercial oil discovery. Mobil et al Flying Foam L-23 was abandoned, and Mobil et al Hibernia J-34 was suspended in 1982; both wells commenced drilling in 1981.

Petro-Canada et al Pothurst C-19 (41) was the only well to commence drilling in 1982 on the Labrador Shelf. The well was suspended at the end of the drilling season, and is expected to be re-entered in 1983.

Both Petro-Canada et al Corte Real P-85 (42) and Petro-Canada et al Rut H-11, wildcat wells which were re-entered in 1982, were suspended and both are expected to be active again in 1983.

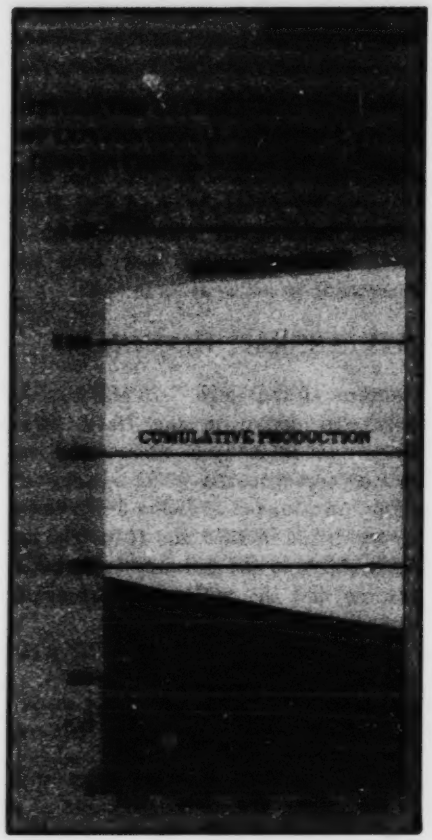
DAVIS STRAIT REGION

Canterra et al Ralegh N-18 (43) was the only well drilled in the Davis Strait Region in 1982. This wildcat well was located approximately 26 kilometres east of the Aquitaine et al Hekja 0-71 gas discovery drilled in 1979 and 1980. The primary objective was indicated to be water-bearing and the well was subsequently abandoned.

OIL AND GAS RESERVES

The Board's estimate of remaining established reserves of conventional crude oil as of 31 December 1981 was 715.5 million cubic metres, 44.2 million cubic metres lower than the 31 December 1980 estimate. Initial established reserves at 31 December 1981 were estimated at 2 336.1 million cubic metres, an increase of 21.8 million cubic metres from the final 31 December 1980 estimate of 2 314.3 million cubic metres. Production in 1981 was 66.0 million cubic metres.

In the Board's June 1981 report, *Canadian Energy Supply & Demand 1980-2000*, established reserves of 50 million cubic metres were credited to the offshore Hibernia field, east of Newfoundland, based on the results of three successful oil wells drilled in the field at the time the estimate was made. The Board's estimate remains unchanged until such time as further information is available. However,



Estimated Established Reserves
of Conventional Crude Oil
at 31 December 1981
(Million Cubic Metres)

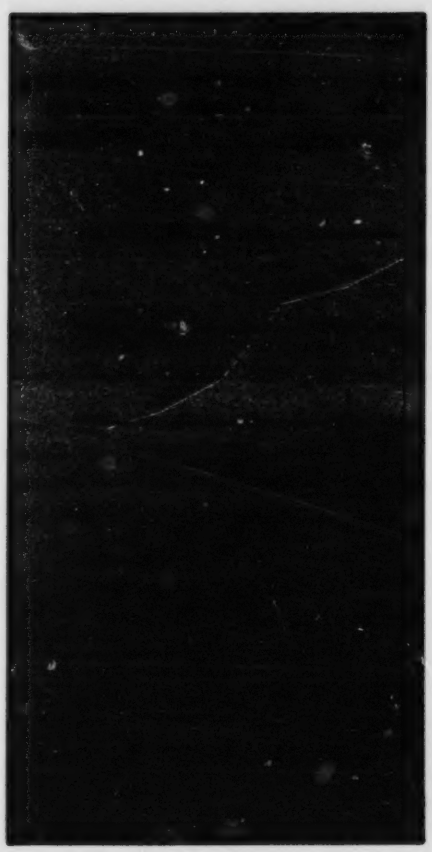
	Initial	Remaining
British Columbia	78.5	24.0
Alberta	1 828.1	577.1
Saskatchewan	381.9	101.0
Manitoba	28.4	7.4
Northwest Territories	9.5	5.4
Ontario	9.7	0.6
Canada Total	2 336.1	715.5

Note: Propane, butanes and pentanes plus are not included.

considering other published estimates, as well as its own evaluation of the reservoir data, the Board recognizes that with additional development the recoverable reserves of the Hibernia field could exceed 150 million cubic metres.

The Board's estimate of remaining established reserves of marketable natural gas in the conventional producing areas as of 31 December 1981 is 80.8 exajoules, 4.4 exajoules higher than its 31 December 1980 estimate. Initial established reserves at 31 December 1981 were estimated at 144.2 exajoules, an increase of 7.3 exajoules from the final 31 December 1980 estimate of 136.9 exajoules. Production in 1981 was 2.9 exajoules.

The estimate for frontier regions is 17.6 exajoules, which remains unchanged from the 31 December 1980 estimate. In frontier regions, the Board recognizes established reserves only in the Mackenzie Delta area and in the Arctic Islands at this time.



Net additions to initial established marketable reserves in conventional producing areas during 1981 were 7.3 exajoules. Increases of 5.5 exajoules in Alberta, 1.2 exajoules in British Columbia, and 0.6 exajoules in Saskatchewan were recorded. The unusually high increase for Saskatchewan was due to the inclusion for the first time of shallow gas reserves in the southwestern portion of the province.

Estimated Established Reserves
of Natural Gas
at 31 December 1981
(Exajoules)

	Initial	Remaining
British Columbia	15.4	9.5
Alberta	106.7	68.9
Saskatchewan	2.8	1.7
Southern Yukon and Northwest Territories	0.6	0.4
Ontario and Other Eastern Producing Areas	1.1	0.3
Total Marketable Reserves	126.6	80.8
Mackenzie Delta	5.6	5.6
Arctic Islands	12.0	12.0
Canada Total	144.2	98.4

REPORT ON OPERATIONS

OIL AND PETROLEUM PRODUCTS

The worldwide oversupply of crude oil increased during the year as global demand declined to levels which posed serious problems of adjustment for the oil industry both in Canada and abroad. The effects of weak demand were exacerbated by an unusually deep and longlasting drawdown of world oil stocks while the anticipated strengthening of demand and price which normally occurs during the winter season failed to materialize.

World crude oil prices exhibited weakness throughout most of the year. The OPEC group of producing countries was able to maintain its formal structure of prices but its cohesion and influence in the market was undermined by its inability to institute effective production controls and by the increasing availability of oil from non-OPEC countries. Spot market prices were generally below official or contract prices and covert discounting on a wide scale and other forms of preferential marketing belied the apparent stability of OPEC prices.

The weakness in the crude oil market stemmed directly from the softness of refined product markets, particularly those markets in Europe where refiners' margins became negative in many situations causing widespread refinery closures or sharply reduced operations.

The oil scene in Canada during 1982 was highlighted by a continued decline in demand for petroleum products. Falling demand, product inventory drawdowns and refinery turnarounds contributed to a shut-in of domestic crude which peaked in April but endured until July and recurred again in December when high product inventory levels and anticipated lowering of the Petroleum Compensation Charge in

TABLE 9

Crude Oil and Equivalent Hydrocarbons Production, Imports and Exports
Unit: $10^3m^3/d$

	1978	1979	1980	1981(p)	1982(e)
Canadian Production	227.628	256.497	244.612	220.100	217.526
Imports	86.433	76.146	69.629	71.403	45.038
Exports	27.665	24.972	14.834	15.798	24.818

(p) preliminary

(e) estimates

combination with the 1 January domestic price increase brought about severe reductions in refinery runs.

Deliveries of domestic crude oil and equivalent hydrocarbons to Canadian refineries dropped by 5.9 percent from 1981 levels. Similarly, crude imports were lower in 1982 than in 1981 by 36.8 percent, not only because of lower demand and inventory reductions but also because of the availability of domestic crude which was not produced in 1981 because of the Alberta cutbacks.

Domestic demand for main petroleum products (gasoline, middle distillates, heavy fuel oil) was lower this year than last by about 10.1 percent with motor gasoline and heavy fuel oil showing the greatest decreases, 7.8 percent and 19.4 percent respectively.

The decline in demand which began in 1980 was reflected by each region but was most severe in Ontario, Quebec and the Atlantic provinces. Refinery crude runs in Canada during 1982 declined by 13.7 percent to 243 600 cubic metres per day. Throughput at refineries in Quebec and the Atlantic provinces averaged 89 200 cubic metres per day compared with 110 300 cubic metres per day in 1981. West of Quebec, refinery runs at 154 500 cubic metres per day in 1982 were 17 700 cubic metres per day lower than a year ago.

The Board's practice of providing a monthly overview of the oil supply/demand balance in Canada to industry representatives and federal and provincial officials was maintained throughout the year.

Prices for domestic crude oil increased on 1 January and 1 July each by $14.15 per cubic metre.

Crude Oil Allocation, Exports and Exchanges

During the first half of 1982, Canadian refiners reduced their crude oil and product inventories. These reductions, together with the fall in product demand and the attraction of offshore crude oil, caused demand for domestic crude oil to fall to the extent that an average 18 000 cubic metres per day was shut in during the first seven months of the year. The Government introduced changes to the import compensation program which had the effect of placing domestic light crude oil at an economic advantage during the second half of 1982. At the same time the Government began to subsidize movements of domestic light crude oil to the Atlantic region. The Board extended the domestic allocation program to the Atlantic area, enabling the region to obtain a share of available domestic crude oil on a regular basis. As a result, during the second half of the year domestic use of Canadian crude oil was maximized and, as previously mentioned, no shut-in occurred until December.

The continuing drop in demand and maximization in the use of domestic crude oil caused the Sarnia-Montreal pipeline to operate at near maximum sustainable capacity during the second half of 1982. Conversely, Portland pipeline throughputs were at very low levels, just under 8 000 cubic metres per day by December.

Surplus volumes of heavy crude oil continued to be exported to refiners in that area of the northwestern United States known as the Northern Tier. Competitive pricing and the extension of licence terms to one year pushed exports of Canadian heavy crude oil to a record level of 24 500 cubic metres per day for the year. Only small quantities of domestic light crude oil were exported to the United States.

The continuing decline in demand for crude oil by U.S. refiners in 1982 effected a 4.4 percent reduction to 9 349 cubic metres per day in the volumes being exported under mid-continent exchange agreements wherein domestic crude oil is shipped from western Canada to the U.S. Nothern Tier and in return, U.S. crude oil is returned to Ontario and Quebec via mid-continent U.S. pipelines. One refiner exported an average of 690 cubic metres per day under eastern Canadian exchange arrangements, that is to say, that refiner arranged for Canadian crude oil to be transported to a U.S. refiner in return for which an offshore shipment was delivered to eastern Canada via the Portland pipeline.

Bulk exports of licensed petroleum products were 10 670 cubic metres per day, about 28 percent lower than the average for 1981. Effective early in June 1982 export licensing control was extended to asphalt. On 1 June 1982, imports of heavy fuel oil became subject to licensing and the National Energy Board Act Part VI Regulations were amended to allow the Board to issue licences to import heavy fuel oil where the importation would not be inconsistent with the development and utilization of Canadian indigenous energy sources.

In 1982, the Board continued to license exports of marine and aviation fuels acquired in Canada and consumed in international transportation. Such marine fuels continued to be subject to the transportation fuel compensation recovery charge under a program administered by the Board. The transportation fuel compensation recovery charge on aviation fuels was terminated on 31 January 1982. Effective 1 February 1982, the Board established a minimum just and reasonable price for aviation fuels acquired in Canada and consumed in international transportation in order to ensure that

prices paid in Canada would reflect prices prevailing in international markets. Subsequent amendments to the National Energy Board Act prescribe the range of prices at which aviation fuels shall be sold for use in international transportation. During 1982, 7 600 cubic metres per day of marine and aviation fuels were exported under licences issued by the Board.

Under the provision of the Energy Administration Act and Regulations, the Board collected and deposited to the Consolidated Revenue Fund approximately $650 million in export charges levied on exports of oil and oil products, and approximately $100 million in transportation fuel compensation recovery charges. The records of reporting companies were examined to verify the accuracy of the charges levied and paid.

NATURAL GAS AND GAS PRODUCTS

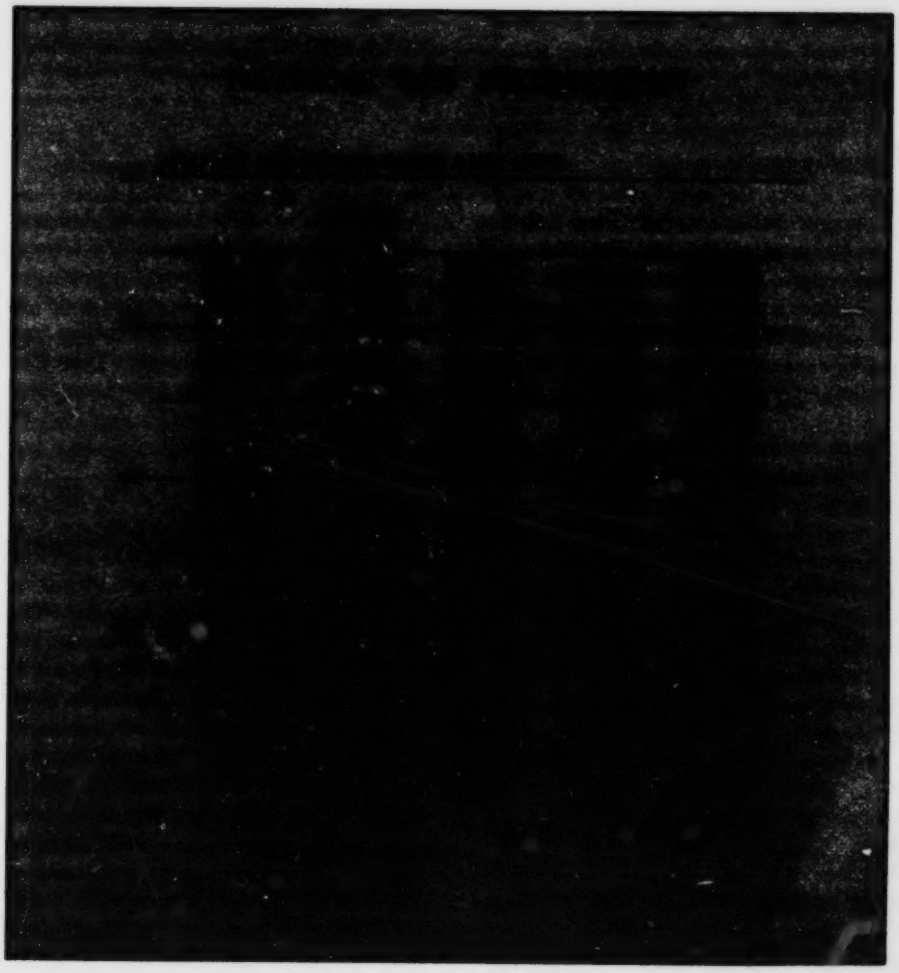
Production and sales of natural gas in 1982 showed some improvement over the depressed levels of 1981. Net sales* of natural gas in Canada during 1982 increased slightly, and exports to the United States, in terms of absolute volumes, increased moderately by 2.9 percent from the 1981 levels. Production* in British Columbia was reduced by 8.3 percent while production in Alberta increased by 3.3 percent over the 1981 production level.

Natural Gas Production and Consumption

In 1982, production of marketable natural gas increased by 1 364 million cubic metres from the 1981 levels, an increase of 2.0 percent. Net sales* of natural gas in Canada during 1982 increased by 1 704 million cubic metres, an increase of approximately 4.0 percent, reflecting the connection of new customers as well as the conversion from oil to natural gas. Consumption in the residential sector increased by 25.2 percent. The commercial sector registered a decline of 1.8 percent, and the industrial sector, which represents approximately 50 percent of total net sales in Canada, decreased by 2.5 percent.

Domestic Natural Gas Pricing

The Petroleum Administration Act (PAA) was enacted in 1975, assigning responsibility for the administration of domestic natural gas pricing to the Board. This Act was amended under Bill C-103, which received royal assent in July 1982. Section 2 of the amendment changed the name of the Act to the Energy Administration Act (EAA). Part III of the EAA provides the Government with the authority to achieve a uniform price, exclusive of transportation and service costs, for natural gas sold within Canada but outside its province, Yukon Territory, Northwest Territories, and offshore area of production. The EAA provides the Government with a mechanism which enables it to



* Preliminary

TABLE 10

Natural Gas Production*
Unit: $10^9 m^3$ at 101.325 kPa (abs) and 15° C

	1978	1979	1980	1981(p)	1982(e)
Net Sales in Canada	41.745	43.495	43.901	42.886	44.590
Exports	24.961	28.344	22.563	21.584	22.201
Other Canadian Uses**	3.578	3.865	2.581	3.635	2.678
Total Production***	70.284	75.704	69.045	68.105	69.469

(p) preliminary

(e) estimates

* Based on Statistics Canada monthly publications 55-002 and 26-006. These statistics are on a different basis than those in Statistics Canada publication 57-003 which is used in the preparation of forecasts for Board Energy Supply and Demand reports.

** Includes Pipeline Fuel and Losses and Other Deliveries.

*** Marketable Pipeline Gas.

achieve a balanced relationship between the prices of natural gas and alternative fuels sold in Canada. Also, the Act helps to achieve a balance between the interests of consumers and producers in Canada, while encouraging the discovery, development and production of natural gas.

Under section 50 of the Act, the Minister of Energy, Mines and Resources may enter into an agreement with the government of a producing province to establish prices for natural gas produced in the province for sale outside that province. On 1 November 1981 a new Federal/Alberta pricing agreement came into effect which established natural gas price increases at the Alberta border at 23.3 cents per gigajoule every six months until 31 January 1987. In 1982 the Alberta border price was set at 193.5¢ per gigajoule and 216.8¢ per gigajoule effective 1 February and 1 August respectively.

Part III.2 of the EAA, "Canadian Ownership Provisions" provides the legislative authority for a Canadian Ownership Special Charge on natural gas of 14¢ per gigajoule which has been in effect since 1 May 1981. In addition, under the Excise Tax Act, the Natural Gas and Gas Liquids Tax on marketable pipeline gas was raised to 63¢ per gigajoule from 42¢ per gigajoule, effective 1 February 1982 for the balance of the year.

In August 1981 the Board, at the request of the Minister, conducted an inquiry into the necessity for developmental prices and other matters relevant to the pricing of natural gas in the domestic market. The Board's Report to the Minister on "The Pricing of Natural Gas in the Domestic Market" was released in November 1982. A number of the Board's recommendations were put into place during the year; these included a developmental pricing program for new market areas, the integration of the TCPL and TQM pipeline systems for rate-making purposes, and a transmission subsidy program (a $500 million grant for construction of pipeline laterals in Quebec has been established).

In accordance with the Minister's policy statement of April 1981 on domestic natural gas pricing, the existing TransCanada eastern rate zone was extended to Quebec City on 1 September 1982. The result is that gas prices prescribed in the province of Quebec are the same as the Toronto city-gate price for the same type of service.

Natural Gas Export Price

The National Energy Board Act requires that the Board study and keep under review matters over which the Parliament of Canada has jurisdiction relating to matters such as the sale of energy and sources of energy within and outside Canada and recommend to the Minister such measures as it considers necessary or advisable in the public interest relating to matters such as the marketing of energy and sources of energy. The Act was amended under Bill C-108. Section 85(2) of the Part VI Regulations as amended provides the Governor in Council with the authority to make regulations prescribing the price at which oil or gas may be exported. Section 22(2) of the Part II Regulations as amended requires the Board to provide the Minister with advice relating to the export pricing of oil and gas.

In January 1981, the Board recommended that the export price be raised from $4.17 (U.S.) to $4.60 (U.S.) per gigajoule ($4.94 (U.S.) per million Btu) effective 1 April 1981. This was $0.95 (U.S.) per gigajoule below the price prescribed in the Duncan/Lalonde agreement. The major factor behind the Board's decision was the continued escalation in OPEC crude oil prices. However, in the light of the economic downturn in the United States and the availability of supplies of residual fuel oil and lower priced indigenous gas, the Board, during the remainder of the year, recommended no further price increases. During 1982, Canadian natural

gas continued to meet competition from residual fuel oil and from United States indigenous gas. This competition, combined with the continuing economic downturn, sustained conservation efforts, as well as a delay in the commencement of exports on the prebuild sections of the Foothills pipeline has resulted in Canadian natural gas exports being approximately 47 percent of the volumes authorized for export during the past licence year (1 November 1981 to 31 October 1982).

Natural Gas Exports

Natural gas exports to the United States amounted to 22 201 million cubic metres in 1982, approximately 2.9 percent greater than the exports during the previous year. This increase in export volumes, due mainly to the commencement of exports on the prebuild sections of the Foothills pipeline, coupled with the 1 April 1981 increase in the export price of natural gas resulted in revenues for 1982 being some 9.1 percent higher than in 1981.

Ethylene

During 1982 the Board issued two orders for the exportation of ethylene, and an amendment to one of those orders.

Esso Chemical of Canada, a division of Imperial Oil Limited, was issued an order for the exportation of 3 500 000 kilograms of ethylene via tank truck from Fort Erie, Ontario for the period 1 April 1982 to 31 March 1983.

Petrosar Limited was issued an order for the exportation of 9 071 850 kilograms of ethylene via tank truck form Sarnia, Ontario for the period 9 November 1982 to 31 March 1983.

Ethane

No licences were issued by the Board for the exportation of ethane during 1982.

Export Control of Propane and Butanes

In 1982, the Board continued to license propane and butanes for export and to set minimum export prices f.o.b. Alberta applicable to all propane and butanes exports. The Board estimated that during the current export allocation year (1 April 1982 to 31 March 1983) the total net Canadian production of propane will be 6.7 million cubic metres, and 4.0 million cubic metres of butanes.

Canadian requirements for propane were estimated to be 2.9 million cubic metres, approximately 6.6 percent less than the previous allocation year, while Canadian requirements for butanes were estimated to be 1.1 million cubic metres, some 20.4 percent below the corresponding volumes for 1981. In its calculation of domestic supply of propane and butanes, the Board included the domestic volumes remaining in inventory on 31 March 1982, and, in calculating domestic demand, the Board included a contingency volume to accommodate domestic market fluctuations.

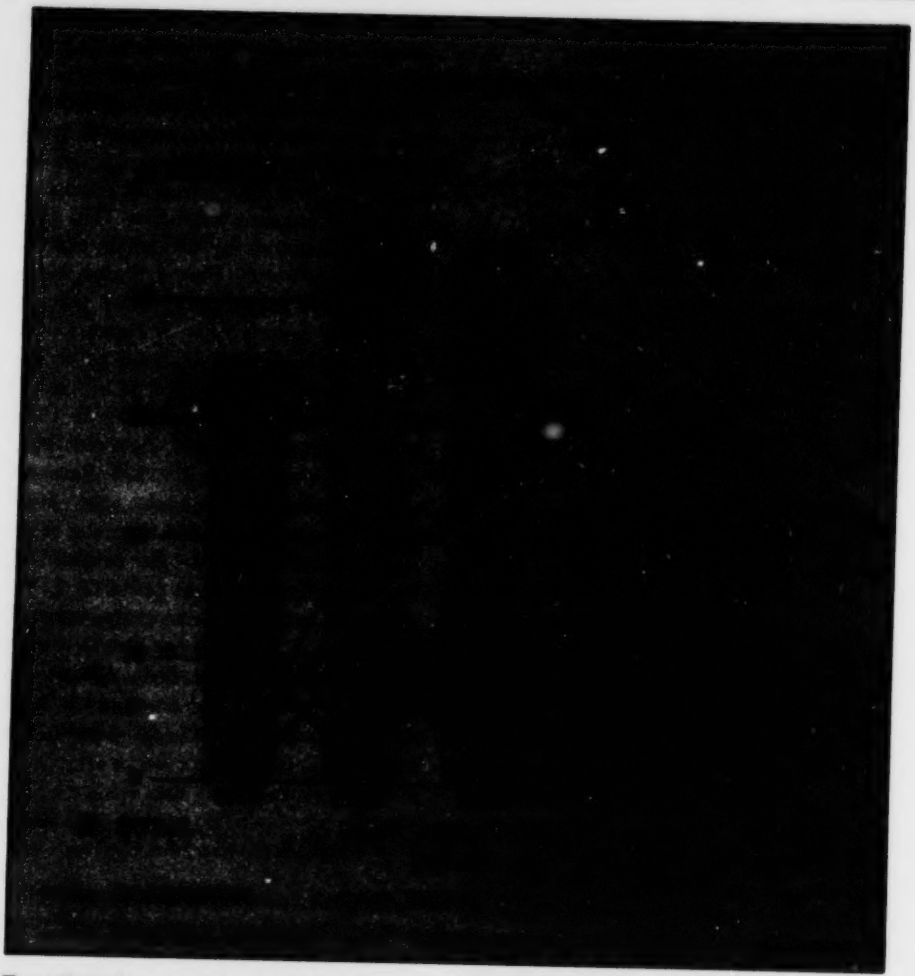
The export share of Canadian production of propane remained at the 1981 level of 50 percent. The export share of production of butanes was calculated at 62 percent at the beginning of the 1982-83 export allocation year and was increased to 70 percent in December 1982 retroactive to 1 April 1982. The increase in export share of butanes production was necessitated by the decrease in domestic use of butanes in gasoline blending and as a petrochemical feedstock resulting from the current economic recession.

For the year 1982, the estimated total volume of propane exported from Canada was 4.0 million cubic metres or 50 percent of estimated total net Canadian production. For butanes, the estimated total volume exported in 1982 was 2.8 million cubic metres or 68 percent of estimated total net Canadian production. The predominant market for Canadian exports continues to be the United States. However, in 1982 approximately 12.8 percent of propane exports were to Japan and a minimal volume was exported to Saint-Pierre-et-Miquelon, France. The underground inventory of propane during 1982 ranged from a low of 800 thousand cubic metres to a maximum of 1 273 thousand cubic metres. For butanes, the 1982 inventory ranged from 363 thousand cubic metres to 639 thousand cubic metres. The Board's minimum export prices for LPG, normally established monthly, ranged from a low of 7.5 cents per litre to a high of 12.0 cents per litre f.o.b. Alberta for propane and from 12.5 cents per litre to 17.0 cents per litre f.o.b. Alberta for butanes.

PIPELINE ACTIVITIES

The assessment of applications for the authorization of new pipeline facilities and for additions to existing pipeline systems forms a large part of the Board's responsibilities. A total of 41 of those applications from gas transmission companies were reviewed and approved by the Board in 1982 as compared with 23 in 1981. Appendices G-I and G-II list the certificates of public convenience and necessity and all other related orders that were issued during the year.

During 1982, the Board completed a review of TransCanada's "Line Pipe Integrity Study" and as a result of this review the Board informed TCPL that it would consider applications for site specific pipe replacements.



TransCanada was also granted Board approval for several smaller projects during 1982, including a check meter station at St-Lazare, Quebec.

In January 1982, Westcoast Transmission Company Limited applied to replace 27.4 kilometres of pipe in the Grizzly Valley sour gas pipeline system. The need for these replacements was established by Westcoast following two failures on the line during 1981. The application was approved by the Board in March 1982. Westcoast also received Board approval during 1982 for the construction of eight new meter stations.

In the summer of 1982, the Board approved applications by Trans Québec & Maritimes Pipeline Inc. for an 8.6 kilometre lateral to Trois-Rivières West, a 14.2 kilometre lateral to Joliette, a 31.1 kilometre lateral to Lachute, a 0.9 kilometre lateral to Louiseville, a 10.1 kilometre lateral to St-Jérome, and a 20 kilometre lateral to Quebec City West. Meter station applications for each of those laterals were also assessed and approved.

Although there were no applications from oil transmission companies requiring a public hearing during 1982, several other applications were received. Among these was an application in May 1982 by Interprovincial Pipe Line Limited for the upgrading of its line No. 8 between Sarnia and Millgrove (near Toronto) to high vapour pressure propane service. This application is being reviewed by the Board and a decision is expected early in 1983.

Two other such applications were received from Trans Mountain Pipe Line Company, for the upgrading of seven pump stations in Alberta and British Columbia, and from Trans-Northern Pipelines Inc. for modifications at pump and meter stations, in eastern Ontario and Quebec, necessary to permit the completion of the reversal capability of its line. The Board granted approval for each of these applications in October and December of 1982 respectively.

Other miscellaneous projects that were approved by the Board during the year are noted in Appendix O-II, which lists the orders issued during 1982.

Pipeline Construction and Operations

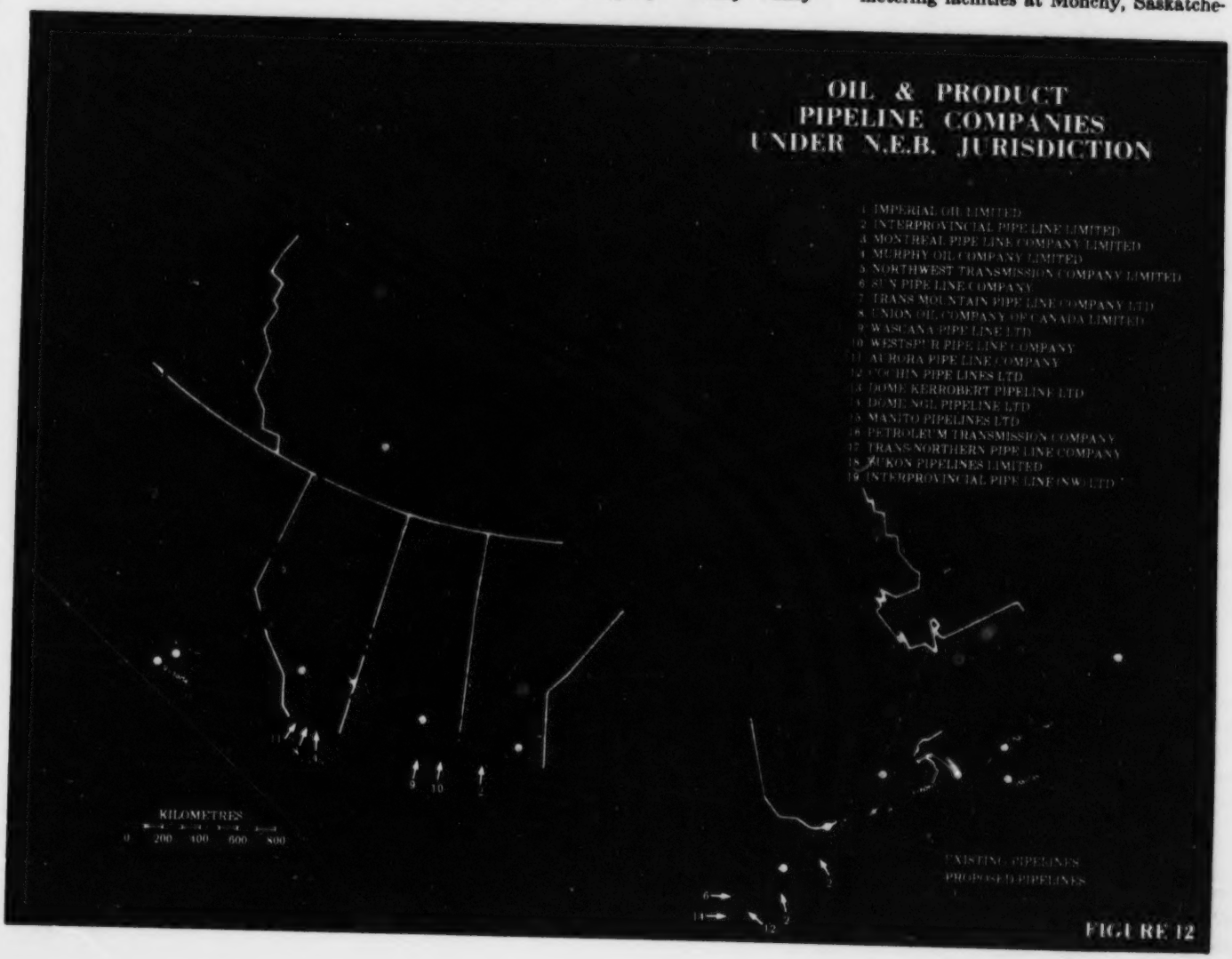
The major portion of the Board's operational and regulatory activities for pipelines deal with the post-certification aspects of construction. That involves the review of alignment sheets, construction techniques, and final design prior to approval of construction. The approval of design changes occurs during construction. Additionally, pipeline welds are subject to radiographic audit, and the hydrostatic testing procedure requires approval prior to testing. Testing results are reviewed as part of the documentation leading toward the approval of each leave-to-open application on completed work. The above activities relate to safety, environmental, and engineering aspects and are subject to approval by the Board.

Construction activities in 1982 included the completion of the remaining portions of the 1980, 1981 and 1982 facilities of TransCanada PipeLines, which consisted of looping, manifolding and compressor stations. Construction on TransCanada's North Bay Shortcut, begun in February 1982, was completed and gas was flowing in the first week of December.

Leave-to-open was granted to Trans Québec & Maritimes Pipeline Inc. on 8 February 1982 for facilities constructed between St-Lazare and Boisbriand. Leave-to-open its facilities as far as Trois-Rivières, as well as for four laterals and meter stations was granted in November and December 1982. Monitoring of the construction phase of the mainline between Trois-Rivières and Quebec City began in the summer and gas is expected to reach Quebec City in 1983.

Following extensive metallurgical studies on breaks which occurred on Westcoast Transmission Company's Grizzly Valley sour gas pipeline in 1982, 27.4 kilometres of line pipe was replaced during the summer of 1982. Leave-to-open that replacement was given in the fall.

Construction on the Eastern Leg prebuild facilities of the Alaska Highway Gas Pipeline was completed in 1982, as well as the first of two compressor units at the Jenner, Alberta compressor station. An 880-metre line was constructed to bypass the partially completed compressor and metering facilities at Monchy, Saskatche-


OIL & PRODUCT
PIPELINE COMPANIES
UNDER N.E.B. JURISDICTION
1 IMPERIAL OIL LIMITED
2 INTERPROVINCIAL PIPE LINE LIMITED
3 MONTREAL PIPE LINE COMPANY LIMITED
4 MURPHY OIL COMPANY LIMITED
5 NORTHWEST TRANSMISSION COMPANY LIMITED
6 SUN PIPE LINE COMPANY
7 TRANS MOUNTAIN PIPE LINE COMPANY LTD
8 UNION OIL COMPANY OF CANADA LIMITED
9 WASCANA PIPE LINE LTD
10 WESTSPUR PIPE LINE COMPANY
11 AURORA PIPE LINE COMPANY
12 COCHIN PIPE LINES LTD
13 DOME KERROBERT PIPELINE LTD
14 DOME NGL PIPELINE LTD
15 MANITO PIPELINES LTD
16 PETROLEUM TRANSMISSION COMPANY
17 TRANS NORTHERN PIPE LINE COMPANY
18 YUKON PIPELINES LIMITED
19 INTERPROVINCIAL PIPE LINE (NW) LTD
KILOMETRES
0 200 400 600 800
EXISTING PIPELINES
PROPOSED PIPELINES
FIGURE 12

GAS PIPELINE COMPANIES
UNDER N.E.B. JURISDICTION
1. ALBERTA NATURAL GAS COMPANY LTD.
2. AMOCO CANADA PETROLEUM COMPANY LTD.
3. CANADIAN-MONTANA PIPE LINE COMPANY
4. CHAMPION PIPE LINE CORPORATION LIMITED
5. CONSOLIDATED PIPE LINES COMPANY
6. DOME PETROLEUM LIMITED
7. FOOTHILLS PIPE LINES LTD.
8. ICG TRANSMISSION LIMITED
9. MANY ISLANDS PIPE LINES (CANADA) LIMITED
10. MID-CONTINENT PIPELINES LIMITED
11. MINELL PIPELINE LTD.
12. MURPHY OIL COMPANY LIMITED
13. NIAGARA GAS TRANSMISSION LIMITED
14. PEACE RIVER TRANSMISSION COMPANY LIMITED
15. SASKATCHEWAN POWER CORPORATION
16. TRANSCANADA PIPELINES LIMITED
17. TRANS QUEBEC AND MARITIMES INC.
18. UNION GAS LIMITED
19. WESTCOAST TRANSMISSION COMPANY LIMITED
20. WESTERN DECALTA PETROLEUM LIMITED
KILOMETRES
0 200 400 600 800
EXISTING PIPELINES
PROPOSED PIPELINES

FIGURE 13

wan. This construction was necessary since a four-month strike by building tradesmen in Saskatchewan delayed construction of the above-mentioned facilities.

Construction was completed and leave-to-open orders were granted allowing Canadian gas to flow through the Eastern Leg to United States markets on 1 September 1982. The second compressor unit at Jenner, Alberta and the Monchy, Saskatchewan meter station were also completed in 1982.

The Board examined an application by TransCanada PipeLines Limited for use of High Impact Welding on a proposed test section of their 1982 facilities. The test was requested to field test an explosive welding procedure for pipeline construction. The application was approved subject to several conditions; however, TCPL did not undertake the test.

The Board is continuously updating its standards by reviewing the Oil and Gas Regulations and the Rules of Practice and Procedure with regard to improved methods of technology and safety. In 1982 the Board was also involved with monitoring the safe operation of pipelines by such means as the review of repair techniques, the investigation of problems due to induced currents and the review of reports on pipeline incidents as submitted by companies under the Board's jurisdiction.

Pipeline Crossings by Third Parties

During 1982, with the enactment of amendments to the NEB Act arising from Bill C-108, the Board increased its jurisdiction from certain specified utility pipeline crossings to any excavation activity on pipeline right-of-way. This authority allows the Board to establish the regulations governing construction procedures and design criteria of utilities which cross pipelines and to review specific construction activities to ensure that the standards will be met.

IPL (NW) Project

In 1981, Interprovincial Pipe Line (NW) Ltd. was issued a certificate to construct approximately 866 kilometres of 323.9 O.D. crude oil and NGL pipeline extending from Norman Wells, in the NWT to Zama Lake in northern Alberta. During 1982, IPL filed with the Board environmental, socio-economic and engineering studies respecting the pipeline route. The Board has approved the socio-economic and financial material and has approved numerous environmental and technical reports, following which the Board approved right-of-way clearing and associated site development activities. In addition the Board has conducted technical analyses of the design of river and stream crossings, pipeline design with respect to geotechnical data, thaw settlement designs and reviewed geophysical studies and is continuing this analysis.

The Board participated in a routine overflight of the pipeline route in order to view river crossings, facility sites and communities along the route, as well as sensitive thaw settlement and terrain areas.

The Board has reviewed and given approval for the Environmental Protection Plan of IPL (NW) as it relates to clearing and site development activities for the winter of 1982-83. Clearing activities from kilometre posts 0-180 and 347-866 are expected to begin in late January 1983. The Board will, at that time, become involved with the inspection of such activities.

Pipeline Inspection

The Board inspects the facilities of companies under its jurisdiction to ensure that environmental protection measures are being followed, employee and public safety are being protected and facilities are constructed and maintained in a manner which meets the Board's standards.

During 1982, over 1 100 kilometres of pipeline construction were inspected. The Board conducted extensive inspection of construction on both TransCanada PipeLines' North Bay Shortcut and Trans Québec & Maritimes' line from Boisbriand to Quebec City. Inspections included mainline and river crossing construction for both projects, meter station construction for Trans Québec & Maritimes and the witnessing of hydrostatic tests for both lines.

Construction inspection also included the construction activities of TransCanada PipeLines Limited from Swift Current, Saskatchewan to Herbert, Saskatchewan and from Regina, Saskatchewan to Grenfell, Saskatchewan, the Class C construction of Manito on its station expansion at Kerrobert, Saskatchewan and the Grizzly Valley Pipeline Replacement Project of Westcoast Transmission Company.

The locations of a few pipeline incidents were visited to inspect the emergency and safety procedures instituted at the time of the incidents.

Routine operational matters, such as emergency shutdown tests, noise surveys, operational and safety inspections of pump and compressor stations, and overflights of several pipeline systems were conducted during 1982. Facilities inspected included tank farms, pump and compressor stations, gas processing plants and meter stations.

In order to monitor the follow-up rehabilitative activities required of companies, monitoring reports filed to meet certificate conditions were reviewed and post-construction inspections were carried out on 220 kilometres of pipeline right-of-way in Ontario and Quebec. Those monitoring reports delineate the specific locations of difficult or incomplete rehabilitation of the right-of-way. In addition, they set out the future steps which will be taken by each company to ensure the complete restoration of the pipeline route.

Pipeline Incidents

The Board's involvement with the investigation of the causes of pipeline incidents is part of its efforts to improve the safe operation of pipelines. The knowledge of the causes of most failures is a major factor in improving pipeline standards, operational procedures, technological development, and regulatory requirements.

Most pipeline incidents which occur are reported to the appropriate company, often by property owners, and acted upon before serious damage or injury occurs.

In May 1982, a leak occurred in a pipe joint of Westcoast Transmission Company's pipeline. The analysis of this section provided more information on the problems associated with the Grizzly Valley Pipeline, which ruptured in 1981.

The majority of the incidents due to internal corrosion occurred on Westspur's gathering system. The number of such inci-

SUMMARY OF 1982 PIPELINE INCIDENTS

	Gas Pipelines	Oil & Product Pipelines	High Vapour Pressure Pipelines	Total
Equipment failure		4		4
External corrosion		1		1
Internal corrosion		7		7
Settlement/rock slides, lightning strikes, etc.	2	1	1	4
3rd party damage	2	2	4	8
Defective welds	2	1	1	4
Other	2	1	0	3
TOTAL	8	17	6	31

dents has, however, decreased significantly from 1981, in all probability due to Westspur's corrective action initiated during the past year.

Two incidents in 1982 were caused by lightning strikes during severe electrical storms. One of those strikes was to the power transformer of Interprovincial Pipelines Ltd. near Cromer, Manitoba, making it inoperable. The other was to the Blue Hills Compressor Station of Westcoast Transmission Company Limited. This strike resulted in an explosion and fire which totally destroyed all wiring, instrumentation and electrical cooling equipment. Neither lightning strike caused loss of oil product or damage to the actual pipe in the ground.

Dents caused by third party damage were reported as pipeline incidents. These were repaired immediately to avoid further damage to the lines involved.

ELECTRIC POWER ACTIVITIES

At the end of 1982 Canada's total net installed electrical generating capability was approximately 81 800 megawatts, of which hydroelectric plants accounted for 49 920 megawatts, conventional thermal stations 23 525 megawatts and nuclear power 5 878 megawatts. Planned changes in 1982 were additions of approximately 4 673 megawatts of hydroelectric, 1 033 megawatts of conventional thermal, and 630 megawatts of nuclear generation. Total generation of electricity in 1982 is estimated to have been 375 400 gigawatt hours, about 0.8 per cent under 1981. Of this, approximately 67 per cent was supplied from hydroelectric generation, 23 per cent from conventional thermal generation and 10 per cent from nuclear generation.

International and Interprovincial Transfers of Electricity

Gross exports of electricity in 1982 were 34 220 gigawatt hours (35 372 gigawatt hours in 1981) and imports were 2 849 gigawatt hours (1 497 gigawatt hours in 1981) resulting in net exports of 31 371 gigawatt hours (33 875 gigawatt hours in 1981). These net exports constituted about eight per cent of total Canadian generation (about nine per cent in 1981).

Export revenues of about $1 106 million ($1 144 million in 1981) and import costs of $5.4 million ($5.6 million in 1981) resulted in a net revenue of approximately $1 101 million ($1 139 million in 1981).

In 1982 total Canadian electricity exports were three per cent lower than in 1981 and earned three per cent less revenue. The reduction in electricity exports was primarily due to a general decrease in U.S. electricity demand.

Manitoba Hydro is the only major utility that reported large increases in export quantities and obtained a somewhat higher average price. Except for the months of January to April, Manitoba Hydro benefitted from high water flow conditions and exported 46 per cent more than in 1981 and the total revenue increased by 52 per cent. Hydro Québec's export levels were about the same as in 1981 but its total revenue from firm summer sales increased by $93 million due to a re-negotiated price with its U.S. customer, The Power Authority of the State of New York. Ontario Hydro's exports of firm energy were up substantially but interruptible exports were down. As a result, there was no increase in total exports. Average revenues remained about the same as in 1981. In 1982 both B.C. Hydro and Cominco lost revenue from spilling water and had to accept lower average revenues in order to sell on the United States market. High water levels on the West Coast resulted in electricity surpluses in the Northwest region and contributed to the general reduction in demand for electricity imports by U.S. customers. Overall B.C. Hydro exported

TABLE 14

Electricity Supply
Unit: Gigawatt hours x 10^3

	1978	1979	1980	1981(p)	1982(e)
Total Canadian Generation	336.337	353.051	367.306	378.531	375.400
Imports from United States	2.092	1.792	2.940	1.497	2.849
Total Supply	338.429	354.843	370.246	380.028	378.249

(p) preliminary
(e) estimates

approximately 38 per cent less than in 1981 and its revenues decreased by 48 per cent.

Returns submitted to the Board by the major exporting utilities showed that of the exports over the major system interconnections in 1982, 60 per cent of the energy came from hydro generation, 32 per cent from imported coal, 6 per cent from imported oil, and 2 per cent from nuclear and Canadian fossil fuel.

Before electricity can be sold to United States markets it must be offered to neighbouring Canadian markets and be found to be surplus to Canadian requirements. For these reasons the Board monitors Canadian power generation and transfers although it does not regulate these matters.

Electricity supply and demand are tabulated and displayed in Figures 14 and 15. Figure 16 shows exports and imports in 1982 as well as interprovincial transfers for the 12 months ending October 1982.

No certificates of public convenience and necessity were issued in 1982. Related orders issued during the year are tabulated in Appendix E-II.

New licences to export power and energy and related orders issued during the year are tabulated in Appendices E-III and E-IV.

Exports of electric energy under each licence and order during the year are tabulated in Appendix E-V and the total electric energy trade is shown in Appendix E-VI.

Other Electric Power Activities

The report on the output, fuel consumption and operating characteristics of

TABLE 15

Electricity Demand
Unit: Gigawatt hours x 10^3

	1978	1979	1980	1981(p)	1982(e)
Total Canadian Consumption	316.827	323.465	340.065	344.656	344.029
Exports to United States	21.602	31.378	30.181	35.372	34.220
Total Demand	338.429	354.843	370.246	380.028	378.249

(p) preliminary
(e) estimates

Canadian Thermal Generation Stations in 1980 was completed and published in metric units consistent with the government's metrication policy.

Services provided to other departments and outside agencies during 1982 included advice and assistance to the Economic Council of Canada on the electricity sector of their study on Canadian Energy. Electricity supply forecast activities were undertaken as part of the Board's total energy forecast for the Omnibus Gas Hearing. A review is being conducted to determine a clearer assessment of interconnection and pooling benefits in North America.

In addition to the studies and the regulatory work of the Board, staff continued to participate in the updating of the Canadian Electrical Code Part III, and in the meetings of the North American Electrical Reliability Council. Also, several technical papers were presented at the Institute of Electrical and Electronic Engineers on the reliability of interconnected systems and on the economic benefits from energy interchanges.

ENVIRONMENT

Pipelines

Protection of the environment is a major concern of the Board when considering applications, during construction and throughout the monitoring phase. The Pipelines Branch is the principal source of advice to the Board on environmental matters related to pipeline facilities and international power lines.

In considering applications, the Board ensures that an adequate environmental assessment has been carried out, and that the undertakings of the applicants to pro-

tect the environment are appropriate. The Board is also responsible for ensuring that the environmental protection measures are implemented by the companies and are effective. This is accomplished by using a team of professional environmentalists to analyse applications, to ensure appropriate measures are in place for construction, to ensure compliance with all environmental protection practices, and to monitor the follow-up rehabilitative activities required of the companies.

During 1982 the Branch undertook an environmental review of several major applications including the Arctic Pilot Project, TCPL 1982 Facilities, portions of the Trans Québec & Maritimes pipeline, The New Brunswick Electric Power Commission export and the Ontario Hydro Lake Erie interconnection.

The Branch reviewed several environmental monitoring reports which were submitted to satisfy the conditions of certificates issued for various projects including the TCPL 1981 Facilities, the Sault Ste. Marie and Maple to Lisgar loops and the IPL pipe replacements.

Electric Power

The Board is concerned with environmental impacts which may result from the construction and operation of facilities for the generation and transmission of electricity for export. This concern is

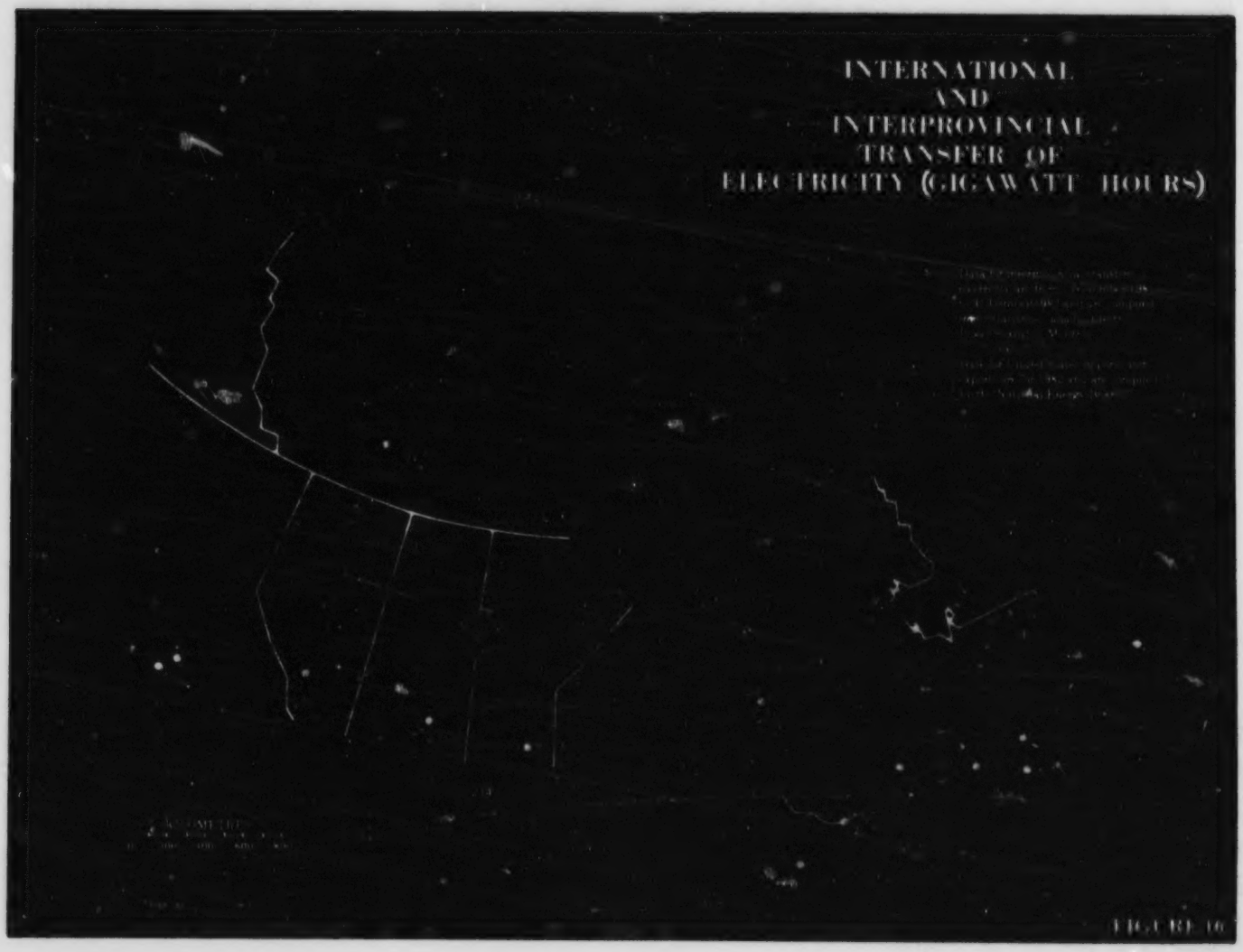


TABLE 17

Dollar Value of Exports of Petroleum, Gas and Electricity (Gross)
Unit: Millions of Dollars

	1978	1979	1980	1981(e)	1982(e)
Natural Gas	2 207.7	3 063.1	4 035.5	4 409.3	4 808.6
Petroleum	2 103.8	3 252.7	3 694.5	4 028.4	4 231.2
Electricity	478.6	738.5	793.6	1 143.9	1 105.9
Total	4 790.1	7 054.3	8 523.6	9 581.6	10 145.7

(p) preliminary (e) estimates

expressed by the Board's activities in keeping abreast of current developments in environmental science and technology, by the evidentiary requirements it places upon applicants and by the importance it accords to environmental matters during the licensing and certification process.

Where existing environmental regulations govern a particular activity, for example the emissions of sulphur and nitrogen oxides, particulates or radionuclides, the Board is concerned that all operations related to the proposed export are conducted within the limits of these regulations. Where no established standards exist, the Board has suggested that certain studies such as the evaluation of social costs be undertaken by the applicant.

In 1982, the Board considered the environmental impacts of three applications for electricity exports. The first was The New Brunswick Electric Power Commission's application to export a portion of the Point Lepreau nuclear station output. It was shown that the export would result in some increased incremental environmental impact and social costs from increased in-province fossil fuel generation. The evidence showed that Point Lepreau would operate at full capacity whether or not exports were made and would be operated within the limits of applicable regulations. The Board found that there were no direct incremental environmental impacts and social costs attributable to the operation of Point Lepreau for export purposes and that the incremental costs resulting from increased fossil fuel generation would be small relative to the values of the exports.

The second case was an application by Ontario Hydro to construct a direct current interconnection under Lake Erie and use it to export electricity derived from coal and nuclear generation to General Public Utilities of New Jersey. The appli-

cant satisfied the Board that construction and operation of the submarine cable and ground electrodes would have minimal effects on aquatic life, marine activities, human safety and adjacent electrical equipment operation and mechanical integrity. The Board found that because of plannned mitigative measures, the export would not result in a net increase of emissions in Canada except, possibly, in 1985. It was also expected that the export would displace U.S. generation resulting in a decrease in emissions there.

The third case was an application by Cominco Ltd. to export hydraulically-generated electric energy to various U.S. customers. The evidence showed that there would be no measurable environmental impact resulting from generation or transmission of energy for export since Cominco's power system would remain unchanged with or without exports. The Board found that the export would result in no adverse environmental effects.

ECONOMIC MATTERS

Extensive economic evaluations, analyses and studies were undertaken by the Board during the year. Submissions and matters of related interest were reviewed and assessed, and investigations were undertaken on economic viability, cost-benefit, regional socio-economic problems, Canadian content and natural gas surplus tests. Considerable analysis was undertaken related to the economic aspects of the Gas Export Omnibus Hearing, including cost-benefit analysis, commercial viability, and preparation of macroeconomic and energy demand projections. The Arctic Pilot Project involved Canadian content, cost-benefit and socio-economic matters.

Further improvements were made in the Board's energy demand models used in the analysis and evaluation of submissions as well as in the preparation of the Board's projections. Revisions were completed to the equations and data input to the Demand Forecast model and a more complete integration of a number of the sub-models has taken place.

Further cooperation between the Board and federal government departments in a continuing attempt to improve the quality of energy data resulted in the establishment of an interdepartmental working group on energy statistics. Computerization of the Board's data banks continued at a rapid rate and a number of refinements in the reconciliation, identification and collection of energy data was instigated to assimilate the mounting quantities of relevant information.

FINANCIAL REGULATORY MATTERS

During the year, the Board continued its monitoring of the accounting practices and financial results of oil and gas pipeline companies under its jurisdiction. This was accomplished through analysis of periodic or special reports required by the Board, and by ongoing field examinations. These examinations were carried out to verify compliance with the Board's Uniform Accounting Regulations, and with specific directives issued by the Board in relation to accounting, toll and tariff matters, such as the treatment to be accorded particular items of rate base or cost of service.

Gas Pipeline Uniform Accounting Regulations which came into effect in September 1969 were amended by the Board and will be published in early 1983.

A major review of all matters related to the financial regulation of pipelines under the Board's jurisdiction was initiated in 1982.

The Board is in the process of amending its toll adjustment procedures in order to make them applicable for the first time to Trans Mountain Pipe Line Company Ltd. and Trans-Northern Pipeline Inc. Prior to this change, the procedures were applicable only to Interprovincial Pipeline Limited and Cochin Pipe Lines Ltd. Under these procedures these pipelines could apply for revised tolls and tariffs to reflect routine changes in throughput, rate base and cost of service. Such application would not require a public hearing, provided there was no change in the principles or the rate of return established in a previous Board decision. During the year, five tariff revisions were allowed pursuant to these procedures.

Amendments to the National Energy Board Act which took effect in July 1982 included provision for the authorization of interim tolls, subject to refund. The first Board Order under this provision was issued in September, in respect of tolls for Trans Québec & Maritimes Pipeline Inc.

The Board began the process of amending its Rules of Practice and Procedure to include the information required to be filed by,

(a) an oil pipeline company applying for an order fixing tolls and tariffs under Part IV of the Act, and

(b) an oil or gas pipeline company applying for authority to construct pipeline facilities under Part III of the Act.

Various other information filing requirements were reviewed with a view to consolidating them where possible. Discussions were held with pipeline industry representatives to explore the possibility of reducing the amount of information required to be submitted, particularly by smaller pipeline companies.

In July 1982 the Petroleum Administration Act was amended, including changing the name to the Energy Administration Act. Under the provisions of the Act

and its supporting Regulations, the Board continued to be responsible for the audit of the oil and oil product exports reported to the Board. This responsibility includes the collection of the export charges levied thereon, which in 1982 resulted in deposits to the Consolidated Revenue Fund of approximately $650 million.

Effective 1 May 1981, pursuant to Part I of the Energy Administration Act, the Board became responsible for the collection of export charges which apply to aviation and marine fuels used by foreign and domestic carriers travelling in international commerce. These charges ceased to apply to aviation fuel in February 1982. The Board has administered the collection of approximately $100 million in Transportation Fuel Compensation Recovery Charges on marine fuels in 1982.

LEGAL MATTERS

Appearance Before Restrictive Trade Practices Commission

The Restrictive Trade Practices Commission invited the Board to make available a representative of the Board to provide background information for the Commission's Petroleum Industry Inquiry. A senior member of the Board's staff appeared before the Commission to speak to the international trade in oil. Further appearances before the Commission are expected in the coming year.

Litigation

CP AIR

Canadian Pacific Air Lines Limited has launched an action in the Federal Court of Canada, Trial Division, against the Attorney General of Canada and the Board seeking a declaration that the National Energy Board Act does not require that consumption of aviation fuel on CP Air's international flights be licensed under the Act, and that the Board has no jurisdiction to issue licences in respect of such fuel or to set minimum prices for the sale of such fuel to CP Air by its suppliers. Licensing of the export of such fuel has been in effect since May, 1981. A statement of defence has been filed in the Court. It is expected that the action will come to trial in 1983.

ARCTIC PILOT PROJECT INC.

The Board has been involved in the following legal matters with regard to the APP application.

On 15 October 1980, Arctic Pilot Project Inc. applied to the Board for a licence under Part VI of the Act for the export of natural gas from Canada to the United States of America. The Arctic Pilot Project involves the construction of a natural gas pipeline and liquefaction plant on Melville Island in the Arctic, the transport of the liquefied natural gas ("LNG") to eastern Canada and the export of natural gas to the United States of America. The Board also received an application dated 15 October 1980 by TransCanada PipeLines Limited for a certificate under Part III of the Act for the construction and operation of an LNG receiving terminal and regasification facilities at Gros Cacouna, Quebec, or Melford Point, Strait of Canso, Nova Scotia, and for orders under Part IV of the Act relating to traffic, tolls and tariffs.

On 25 September 1981, Inuit Tapirisat of Canada ("ITC") and the Baffin Region Inuit Association ("BRIA") brought a preliminary motion requesting, among other things, that TransCanada be required to elect between the Gros Cacouna, Quebec and Melford Point, N.S. terminal sites. ITC/BRIA requested that this motion be heard prior to the commencement of the public hearing of the Arctic Pilot Project. The Board held a preliminary sitting commencing 2 November 1981 to hear this together with other motions.

On 2 December 1981 ITC/BRIA applied to the Federal Court of Appeal under section 18(1) of the Act for leave to appeal the Board's decision of 5 November 1981 which refused ITC/BRIA's motion to require TransCanada to elect between the Gros Cacouna, Quebec and Melford Point, N.S. terminal sites. The application was argued before the Federal Court of Appeal on 29 January 1982 and the Court dismissed the application.

DOME

In January 1980, the Board amended two certificates held by Dome NGL Pipeline Ltd. and Cochin Pipe Lines Ltd. authorizing the construction and operation of two high vapour pressure pipelines beween Sarnia and Windsor, in the Province of Ontario. Certain of the amendments to the Certificates required the companies to upgrade their pipelines in accordance with the requirements for Part X of the Board's Oil Pipeline Regulations relating to high vapour pressure pipelines. The two companies applied for leave to appeal the Board's decision on the basis that the Oil Pipeline Regulations were being applied retroactively to the two pipelines. On 12 February 1980, the Federal Court of Appeal granted the companies' application for leave to appeal. While the appeals remain pending in that Court, discussions between counsel have taken place in an attempt to settle the appeals. It is anticipated that details of the settlement will be finalized in the very near future.

SASKATCHEWAN POWER

In January and February 1982, Saskatchewan Power Corporation and Many Islands Pipe Lines Limited applied pursuant to section 17 of the National Energy

Board Act for an order reviewing and rescinding four orders issued by the Board to TransCanada PipeLines Limited under Part IV of the Act insofar as those orders directed TransCanada to charge the Applicants the Imputed Alberta Border Price specified in the orders and disallowed the price stipulated in an agreement between the Applicants and TransCanada. The Applicants maintained that in a decision rendered on 17 December 1981, the Supreme Court of Canada held that the Board was without jurisdiction to substitute in its Order No. TG-1-76 the Imputed Alberta Border Price for the price fixed under the contract, and that, therefore the orders in question should be reviewed and varied. In August 1982, the Board dismissed the application for review and the Applicants sought leave to appeal the Board's decision. The Federal Court of Appeal granted the companies' application for leave to appeal on 30 September 1982, and the Notice of Appeal was filed on 1 October 1982.

Saskatchewan Power Corporation and Many Islands Pipe Lines Limited also filed an application under section 28 of the Federal Court Act to review and set aside the Board's decision dismissing the application for review and variation of the four orders.

Subsequent to the launching of the appeal and the section 28 application, the Board wrote to the parties involved noting that the implementation of the judgment of the Supreme Court of Canada, pronounced on 17 December 1981, was an issue in the above-mentioned appeal. The Board noted further that the judgment of the Supreme Court of Canada was not certified to the Board for implementation, and that rather than implementing the judgment by way of section 17(1) of the National Energy Board Act, it would be more appropriate to deal with the implementation of the judgment as an administrative matter under section 53 of the Supreme Court Act. Upon receipt of responses from the Appellants and TransCanada, the Board amended Order No. TG-1-76 and the three other orders in question to delete reference to the Imputed Alberta Border Price in relation to the Saskatchewan Zone Sales Service.

In light of the amendment to these orders, the Board is awaiting an indication from the Appellants as to the status of the appeal and the section 28 application.

LEGISLATION AND REGULATIONS

The functions and responsibilities of the Board were summarized earlier in this report. In this connection, during 1982, the following changes were made to the relevant legislation and regulations:

AMENDMENTS TO THE NATIONAL ENERGY BOARD ACT

Bill C-108, which is an Act to amend the National Energy Board Act, was proclaimed on 23 July 1982. Sections 12 and 13 which relate to international power lines, and section 32 which relates to interprovincial power lines came into force on 1 February 1983.

The amendments to the National Energy Board Act broaden the Board's jurisdiction with respect to international power lines, the allocation of oil and gas, and redefine the Board's jurisdiction in relation to oil and gas export prices. The amendments also clarify the Board's ability to make conditional orders, certificates or licences and confer jurisdiction to issue interim orders.

The Governor in Council is authorized to extend the operation of the Act to interprovincial power facilities designated by him. The Governor in Council has also been given the power to direct the Board to assume supervision and control of the movement of oil and gas out of a province or the offshore area.

The amendments tighten the enforcement provisions of the Act in an effort to give the Board the ability to stem violations of the Act by providing for major penalties in situation where offences are committed by officers of corporations. The Attorney General of Canada is now able to initiate prosecutions against companies as well as its corporate officers and agents. Evidence constituting corporate criminal liability may be adduced from the actions of its employees. The amendment will also give a customs officer various enforcement powers under the Customs Act with respect to exports and imports of oil and gas. Where oil or gas is seized pursuant to the provisions of the Customs Act, it can be immediately disposed of in accordance with the regulations made by the Governor in Council pursuant to section 85 of the Act.

The amendment relating to the Board's new powers to make interim orders and conditional orders, and to issue certificates and licences, include the powers to provide in an order, certificate, or licence that it, or any part of it shall only come into effect at a future specified time, on the happening of any specified event or condition, or upon the performance, to the satisfaction of the Board, of some condition specified in the order, certificate or licence and the power to make an order on an interim basis pending final disposition of a particular matter. In other words, the Board may provide in an order, certificate, or licence that it shall only remain in force for a specified time or until the happening of a specified event.

The power to make interim orders is the basis upon which the Board may direct, in a subsequent order, that a company refund a part of its tolls or recover amounts in subsequent tolls under the new section 52.2.

The National Energy Board Part VI Regulations

These regulations were amended to extend export controls to asphalt to provide a means of acquiring accurate data on export volumes and pricing so as to ensure that Canadian requirements are met before an export of asphalt occurred.

Another amendment to these regulations increased the limits for export of electric power and energy that the Board can authorize by order, without a public hearing. Such exports are normally required for border accommodation where the United States customer lacks ready access to service from a United States utility.

The other amendments arose out of the Gas Export Omnibus Hearing, 1982. The first permits the National Energy Board to authorize by order, without the requirement of a public hearing, short-term exports of natural gas for a maximum of two years provided that the total of all such authorizations in any one year does not exceed three billion cubic metres. Such exports would be required either to replace exports authorized by long-term licence but not made owing to regulatory or construction delays, or to allow companies to take advantage of new market opportunities.

The second requires gas licence holders to file copies of all changes and amendments to gas sales contracts and agreements between exporters and importers and prohibits any export of gas pursuant to these changes and amendments until the Board's approval has been obtained.

Oil Pipeline Regulations

Bill C-108 changed the definition of gas in the NEB Act to "gas means any hydrocarbon or mixture of hydrocarbons that, at a temperature of 15° C and a pressure of 101.325 KPA is in a gaseous state...".

The definition of "high vapour pressure pipeline" in section 2 of these regulations was amended because the new definition of gas effected by Bill C-108 would otherwise cause the liquefied hydrocarbons transported by high vapour pressure pipelines to be classified as gas and therefore not subject to the Oil Pipeline Regulations.

Gas Pipeline Regulations

The purpose of the amendment was to redefine the definition of pipeline and to add a new section 4.1 "Transportation of Gas". This section requires that hydrocarbons which fall within the definition of gas, but which are in a liquid state when being transported, be transported in pipelines designed and constructed in accordance with Part X of the Oil Pipeline Regulations rather than the Gas Pipeline Regulations.

Substituted Service Regulations

The proclamation of Bill C-60 changes the procedures for approval of the detailed route for rights-of-way for energy transmission facilities under federal jurisdiction and for the acquisition of and compensation for additional lands required. Substituted Service Regulations provide for the service, other than personal service, of a notice on a landowner, required under the Act.

Gas Pipeline Uniform Accounting Regulations

These regulations were amended to bring the text of the Regulations in line with modern accounting practices and in line with the text of the Uniform Accounting Regulations for oil pipeline companies.

Records Retention Project

In 1981, the Treasury Board initiated a program to reduce and standardize the time period during which various types of records must be kept by the private sector. The Board amended certain Regulations under the National Energy Board Act and Energy Administration Act, to specify the period of time that companies are required to keep certain records, to bring them in line with the Treasury Board Record Retention Project.

The following Regulations are in the process of being amended:

Pipeline Companies Records Preservation Regulations
Gas Pipeline Uniform Accounting Regulations
Oil Pipeline Uniform Accounting Regulations
Gas Pipeline Regulations
Oil Pipeline Regulations
National Energy Board Act Part VI Regulations
Energy Administration Act Part III Regulations

ENERGY ADMINISTRATION ACT REGULATIONS

The National Energy Board is responsible for administering the provisions of Parts I, I.1 and III of the Energy Administration Act and it was necessary in 1982 to amend the following regulations:

Energy Administration Act Part I Regulations

The purpose of these amendments was to change the title of the Regulations as a result of the amendments to the Petroleum Administration Act and also to put into place the administrative and financial procedures to permit the Federal Government to share with the producing provinces fifty percent of its revenues from the charges collected on oil exports

A further amendment to these Regulations provides that the penalty payable pursuant to subsection 13(3) of the Energy Administration Act, upon late payment of the export charge for oil and oil products, shall be one percent of the amount of default for each month or part thereof.

Transportation Fuel Compensation Recovery Charge Regulations

These Regulations were made under Part 1.1. of the Act in order to:

a) designate particular types of fuel as being fuel for use by an aircraft;
b) set out the information that is required to be contained in a return and the form of the return;
c) require that the payment of the transportation fuel compensation recovery charges be sent to the Board; and
d) require that a person who wishes to apply for a refund of the charge, send an application to the Board.

Natural Gas Prices Regulations, 1982

These regulations which fall under Part III of the Act, were amended a number of times during 1982 to take into account, inter alia, changes in prices paid for the sale of gas outside its province of production occasioned by changes in the "Alberta Border Price" and costs of transportation approved by the Board.

REGULATORY REFORM

During 1982 three major initiatives were commenced in the field of regulatory reform:

1. To provide the public with advance notice of forthcoming regulatory actions and with information on the status of ongoing proceedings, the Board started the publication of a regulatory agenda. The first issue was distributed on 1 March 1982 and new editions are now being issued quarterly.
2. To reduce the paper burden on the private sector, the requirements for companies to preserve records are being eased. The Energy Administration Act has already been amended for this purpose, and various regulations under both that act and the National Energy Board Act are in the process of being amended.
3. To simplify and clarify the Board's proceedings, a major re-writing of the Rules of Procedure has been initiated. In due course, copies will be distributed for public comment.

SPECIAL STUDIES AND REPORTS

Because of increasing concern over rising pipeline construction costs, and because actual costs were exceeding by significant amounts the estimates placed in evidence in public hearings, the Board requested its staff to undertake a study of pipeline construction costs. The study included an investigation of the rates of increase in the various components of pipeline costs and their causes, together with a comparison of experience in Canada and the United States. It is anticipated that this study, which was released in July 1982, will contribute to an improvement in the accuracy of cost estimates in facilities applications, enabling the Board to better evaluate proposals for construction of new pipelines. The Minister has now established a Task Force to determine what action might be undertaken by the various parties involved, including contractors, unions, pipeline companies, regulatory agencies, to remedy or curtail the cost increases.

In November the Board in cooperation with McGill University's Centre for the Study of Regulated Industries convened a conference in Montreal on the "Regulation of Pipelines in an Inflationary Era". The main theme of the conference was tariff levelling. The conference succeeded in raising participants' awareness concerning the difficult issues which must be faced and in encouraging discussions of potential solutions.

In September 1982, the Board presented a brief on frontier transportation of oil and gas to the Special Committee of the Senate on the Northern Pipeline. The brief outlined initiatives being taken with a view to improving the effectiveness of the Board's own regulatory functions. It then focussed on suggestions for further improvements in the broader regulatory processes involved in authorizing the construction of major energy projects as well as in controlling their construction. These processes also involve the relationships between the roles of the Board and those of provincial and territorial governments as well as departments of the Federal Government. The suggestions were concerned with the problems involved in ensuring that the regulatory process does not unduly hamper the implementation of projects found to be in the public interest.

ORGANIZATION OF THE NATIONAL ENERGY BOARD

There were no changes of substance in the organization of the Board in 1982, which is shown in the organization chart. For the fiscal year 1982-83 the Board's budget is $21.2 million with a person-year allocation of 447. The Board provides service to the public in both official languages.

Executive Director

The Executive Director is responsible for the day-to-day administration of the Board, including the acquisition and allocation of human and financial resources and the ensurance of efficiency and effectiveness in Board activities and operations. The Director of Projects and Plans is responsible for strengthening the effectiveness of staff support particularly for public hearings, and planning, and coordinating work of staff teams to meet the requirements of the Panels.

Director General Energy Studies

The Director General, Energy Studies, is responsible for ensuring effective coordination and synthesis of all matters relating to energy demand, supply and surplus, conducting major energy studies which are broad in scope and involve a wide range of disciplines, Part II inquiries respecting energy supply, demand and surplus and integration of information and processing systems and services for the Board.

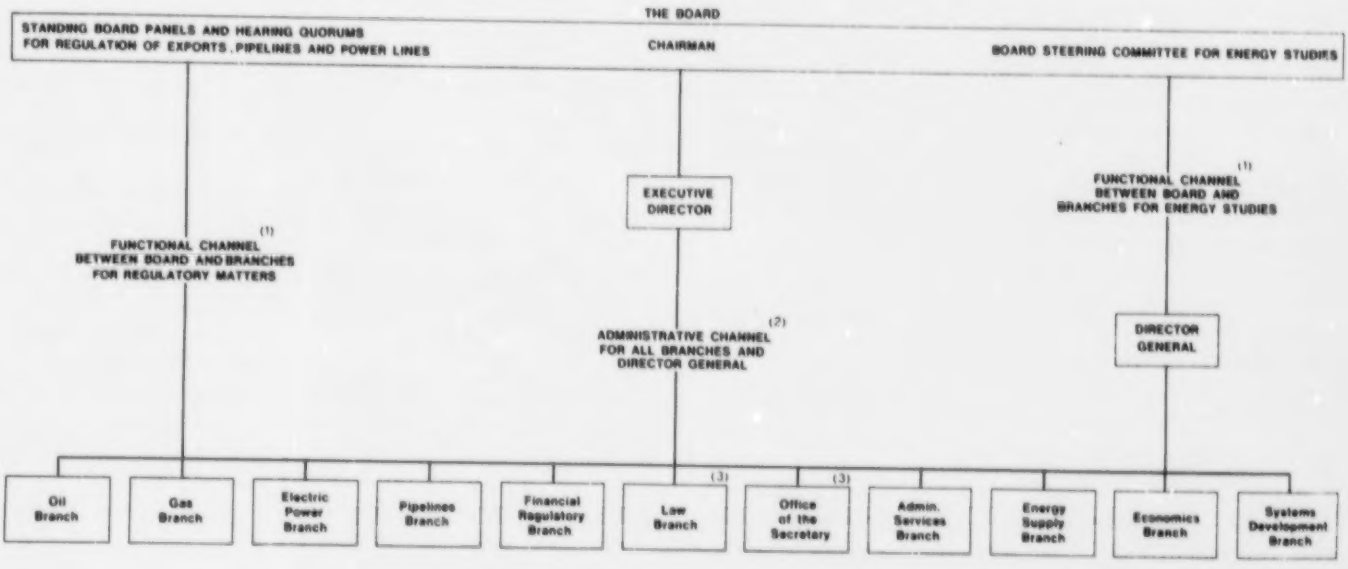
Administrative Services Branch

The Administrative Services Branch is responsible for the coordination and administration of policies and the provision of advice and services in areas of finance, personnel, general administration, official languages, and security.

Economics Branch

The Branch advises the Board on economic and socio-economic matters, long-term energy demand, and macro-economic forecasting for the Canadian economy. The Branch also maintains an energy statistics unit.

NATIONAL ENERGY BOARD
ORGANIZATION CHART


THE BOARD
STANDING BOARD PANELS AND HEARING QUORUMS FOR REGULATION OF EXPORTS, PIPELINES AND POWER LINES
CHAIRMAN
BOARD STEERING COMMITTEE FOR ENERGY STUDIES
EXECUTIVE DIRECTOR
(1) FUNCTIONAL CHANNEL BETWEEN BOARD AND BRANCHES FOR REGULATORY MATTERS
(2) ADMINISTRATIVE CHANNEL FOR ALL BRANCHES AND DIRECTOR GENERAL
(1) FUNCTIONAL CHANNEL BETWEEN BOARD AND BRANCHES FOR ENERGY STUDIES
DIRECTOR GENERAL
Oil Branch
Gas Branch
Electric Power Branch
Pipelines Branch
Financial Regulatory Branch
Law Branch (3)
Office of the Secretary (3)
Admin. Services Branch
Energy Supply Branch
Economics Branch
Systems Development Branch

(1) Functional means pertaining to activities having a primary relationship to the Board's statutory duties
(2) Administrative means pertaining to activities primarily concerned with management of the Board's staff and the provision of human and financial resources
(3) The Secretary and General Counsel have quasi-legal duties and report directly to the Chairman on certain matters

The Branch analyses the impact of proposed energy projects on the Canadian economy, on regional economies, and on the net economic benefit to Canadians. It also considers the socio-economic impact of such projects and assesses the extent to which Canadians will have an opportunity to participate in projects ("Canadian Content").

Electric Power Branch

The Electric Power Branch is responsible for electric export licensing, international power line certification, and regulatory surveillance. The Branch also prepares supply and demand forecasts for electricity for use in dealing with electrical or other applications, keeps under review the United States market for electricity, and provides advice to the Board on matters relating to the production, transportation, sale and exchange of electricity over which the federal government has jurisdiction.

Energy Supply Branch

The Energy Supply Branch is responsible for advising the Board on matters of oil and gas exploration, drilling and production, forecasting trends in oil and gas supply from conventional, oil sands, and synthetic sources, and independently calculates the reserves and deliverability of gas and the reserves and producibility of oil. The Calgary office of the Energy Supply Branch is engaged in the individual pool calculation of gas and oil reserves.

Financial Regulatory Branch

The Financial Regulatory Branch has the prime responsibility for rates, tolls and tariffs under Part IV of the NEB Act and Part II of the Northern Pipeline Act, financial advice in relation to Parts II, III, and VI of the NEB Act and the administration of the collection and audit of petroleum export charges and costs of transportation related to Parts I and III of the Energy Administration Act. It also is responsible for the auditing of the accounts of pipeline companies under the Board's jurisdiction and for monitoring the financial performance of pipelines.

Gas Branch

The Gas Branch is the focal point for all gas and gas product related regulatory activity pursuant to Part VI of the NEB Act and for the monitoring and control of all matters associated with the Board's obligations for the administration of Domestic Gas Pricing under Part III of the Energy Administration Act. The Branch also plays a supportive role in all regulatory activity with respect to gas and gas products pursuant to Parts II, III and IV of the NEB Act.

Law Branch

The Law Branch is responsible for advising the Board on its powers and their legal application to the Canadian energy industries under the Board's jurisdiction, including the possible effect of the application of such powers.

Office of the Secretary

The Office of the Secretary provides administrative control and coordination of all matters brought formally before the Board or panels of the Board, prepares and maintains custody of agenda, minutes, statutory documents, and other official Board records, receives and issues all communications of the Board, and provides the Board with public relations services, a library information centre, and drafting and graphics arts facilities.

Oil Branch

The Oil Branch is responsible for providing advice in the general area of oil-related energy matters including export charges, crude oil and petroleum product export licensing, control of international oil exchanges, allocation of domestic crude oil, questions of oil markets, processing, distribution, and the short-term balance of supply and demand for feedstocks and oil products. These are matters within the ambit of Parts I and II of the Energy Administration Act and Parts II, IV and VI of the NEB Act.

Pipelines Branch

The Pipelines Branch is principally responsible for matters relating to pipeline certificates issued under Part III of the NEB Act. It is the principal source of advice to the Board on capital and operating costs, engineering, safety, right-of-way and environmental matters pursuant to the Board's responsibilities under Parts II, IV, V and VI of the NEB Act and under the Northern Pipeline Act, in respect of pipelines.

Systems Development Branch

The Systems Development Branch is responsible for computer systems services and data processing support to the Board including consultative service on computer operation, data management and program design and development. It also provides an advisory service to ensure the availability and introduction of the latest data processing techniques and applications and the provision of computer hardware and software sufficient for and corresponding to the Board's operational environment.

OFFICE OF THE EXECUTIVE DIRECTOR

R. St.G. Stephens	Executive Director
J.S. Klenavic	Director, Projects and Plans

ENERGY STUDIES

K.W. Vollman	Director General

ADMINISTRATIVE SERVICES BRANCH

S.H. Goldstein	Director
N. Grace	Assistant Director, Administration
M.J. McNamara	Assistant Director, Finance
J.L. Thompson	Assistant Director, Personnel

ECONOMICS BRANCH

P.L. Miles	Director
(vacant)	Assistant Director, Economic Analysis
J.S. Oh	Assistant Director, Macroeconomic Forecasting
L.B. Harsanyi	A/Assistant Director, Demand Forecasting
G.H. Shaw	Assistant Director, Planning and Coordination

ELECTRIC POWER BRANCH

E.S. Bell	Director
A.N. Karas	Assistant Director, Planning
T. Olszewski	Assistant Director, Operations

ENERGY SUPPLY BRANCH

W.A. Hiles	Director
(vacant)	Assistant Director, Geology and Reserves
K. Poole	Assistant Director, Gas Supply
G.C. Hos	Assistant Director, Oil and Alternative Energy Supply

FINANCIAL REGULATORY BRANCH

G.S. Johnson	A/Director[1]
M. Yeates	Assistant Director, Research and Special Studies
A. Brown	A/Assistant Director, Gas [2]
P.A. Martinson	A/Assistant Director, Oil
J.W. Bigelow	Chief Auditor, Northern Pipelines

GAS BRANCH

S.R. Ironstone	Director
A.L. Browne	Assistant Director, Gas Industry and Market Analysis
R.S. Green	Assistant Director, Gas Regulations and Licences

1. Effective 17 January 1983.
2. Effective 24 January 1983.

LAW BRANCH

F.H. Lamar, Q.C.	General Counsel
H. Wetston	Assistant General Counsel

OFFICE OF THE SECRETARY

G. Yorke Slader	Secretary
I. Melzer	A/Assistant Secretary[1]

OIL BRANCH

P.G. Scotchmer	Director
B.P. Leakey	Assistant Director, Evaluation
R.B. Stevens	Assistant Director, Operations

PIPELINES BRANCH

T.S. Shwed	Director
R.E. Jackson, Jr.	A/Assistant Director, Engineering
P.A. Carr	A/Assistant Director, Environment and Right-of-Way
E.L.M. Gordon	A/Assistant Director, Construction and Operation

SYSTEMS DEVELOPMENT BRANCH

D. Emmens	Director
K.E. Begley	Assistant Director, Systems and Operations
K.S. Song	Assistant Director, Planning and Data Base

1. Effective 10 January 1983.

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G-I

CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY FOR GAS PIPELINES ISSUED DURING 1982

APPLICANT	FACILITIES	ESTIMATED COST	HEARD	ISSUED	CERTIFICATE NO.
TransCanada PipeLines Limited	Approximately 426 km of 914 mm O.D. pipeline from North Bay to Morrisburg, Ontario	$408,000,000	20-23 Oct. 1981 and 16-21 Nov. 1981	15 Jan. 1982	GC-69
TransCanada PipeLines Limited	Approximately 186 km of 1219 mm O.D. looping in Saskatchewan and Manitoba	$218,000,000	16-17 Feb. 1982	18 May 1982	GC-70

G-II

ORDERS RELATING TO NEW GAS PIPELINE FACILITIES ISSUED DURING 1982 — CLASS "B" CONSTRUCTION

APPLICANT	FACILITIES	ESTIMATED COST	ISSUED	ORDER NO.
Foothills Pipe Lines (Sask.) Ltd.	Seven 26.7 mm O.D. sales taps, Saskatchewan	No cost reported	16 July 1982	XG-6-82
Foothills Pipe Lines (Sask.) Ltd.	The extension of twenty 26.7 mm O.D. pipeline sections, Saskatchewan	No cost reported	16 July 1982	XG-7-82
Foothills Pipe Lines (Sask.) Ltd.	The extension of 60.3 mm O.D. pipeline section, Saskatchewan	No cost reported	16 July 1982	XG-8-82
Minell Pipeline Ltd.	Automatic odorant station, Saskatchewan	$11,700	11 June 1982	XG-3-82
Minell Pipeline Ltd.	Sales tap, Manitoba	$2,300	17 June 1982	XG-4-82
Peace River Transmission Company Limited	Dawson Creek Meter Station, British Columbia	$24,215	24 Nov. 1982	XG-19-82
TransCanada PipeLines Limited	Sales tap at Lowther, Ontario	$103,900	7 April 1982	XG-2-82
TransCanada PipeLines Limited	St. Lazare Check Meter Station, Quebec	$2,837,000	8 Sept. 1982	XG-11-82
TransCanada PipeLines Limited	Delivery point facility at Ramore, Ontario	$15,000	29 Sept. 1982	XG-14-82
Trans Québec & Maritimes Pipeline Inc.	Approximately 8.6 km lateral to Trois-Rivières West, Quebec	$2,419,500	21 June 1982	XG-5-82
Trans Québec & Maritimes Pipeline Inc.	Approximately 14.2 km lateral to Joliette, Quebec	$5,242,400	13 Aug. 1982	XG-9-82
Westcoast Transmission Company Limited	Replacement of 27.4 km of 508 mm O.D. and 610 mm O.D. pipe of the Grizzly pipeline	$22,032,000	26 March 1982	XG-1-82
Westcoast Transmission Company Limited	Dawson Creek Meter Station, British Columbia	$31,000	13 Aug. 1982	XG-10-82
Westcoast Transmission Company Limited	Kersley Meter Station, British Columbia	$76,100	15 Sept. 1982	XG-12-82
Westcoast Transmission Company Limited	Azouzetta Meter Station, British Columbia	$50,100	15 Sept. 1982	XG-13-82
Westcoast Transmission Company Limited	Petrosul Meter Station, British Columbia	$37,600	20 Oct. 1982	XG-15-82
Westcoast Transmission Company Limited	Goodlow Meter Station, British Columbia	$54,700	20 Oct. 1982	XG-16-82
Westcoast Transmission Company Limited	Baldonnel Meter Station, British Columbia	$70,500	20 Oct. 1982	XG-17-82
Westcoast Transmission Company Limited	South Taylor Meter Station, British Columbia	$58,000	20 Oct. 1982	XG-18-82
Westcoast Transmission Company Limited	David Minerals Meter Station, British Columbia	$50,000	8 Dec. 1982	XG-20-82

G-II

ORDERS RELATING TO NEW GAS PIPELINE FACILITIES ISSUED DURING 1982 — CLASS "C" CONSTRUCTION

APPLICANT	FACILITIES	ESTIMATED COST	ISSUED	ORDER NO.
Alberta Natural Gas Company Ltd.	Total	$957,820		
	Compressor station additions, meter station additions, work equipment, etc.	$658,000	17 Feb. 1982	XGM-3-82
	Welding shop construction	$89,500	3 Mar. 1982	XGM-4-82
	Kinsgate meter station additions	$210,320	8 Dec. 1982	XGM-19-82
ICG Transmission Holdings Ltd.	Total	$27,740		
	Pipe replacement, pressure alarm system and station site upgrading	$25,740	30 Apr. 1982	XGM-9-82
	Relief valve relocation and vent pipe extension	$2,000	8 Sept. 1982	XGM-13-82
TransCanada PipeLines Limited	Total	$41,167,000		
	Pipe repair, tie over valve, corrosion protection replacement, etc.	$1,000,000	10 Feb. 1982	XGM-2-82
	Pipe replacements and miscellaneous station modifications	$11,382,000	3 Mar. 1982	XGM-5-82
	3 MW unit, power turbine starter, pipe replacements, etc.	$1,000,000	17 Mar. 1982	XGM-6-82
	Remedial measures for pipe protection, spare gas generators and power turbines	$14,137,000	15 Apr. 1982	XGM-8-82
	Pipe replacements, compressor station changes and meter station changes	$13,647,000	19 May 1982	XGM-10-82
Trans Québec & Maritimes Pipeline Inc.	Saint Lazare valve assembly	$70,497	8 Dec. 1982	XGM-18-82
Westcoast Transmission Company Limited	Total	$42,682,700		
	Line break repair, etc.	$827,200	6 Jan. 1982	XGM-1-82
	Contingencies	$1,000,000	7 Apr. 1982	XGM-7-82
	Road crossings, hot taps, heavy work equipment, etc.	$2,041,000	19 May 1982	XGM-11-82
	Compressor station upgrading, processing and sulphur plant upgrading, meter station improvements, pipe replacements, transportation equipment, etc.	$24,091,000	16 July 1982	XGM-12-82
	Improvements to pipeline, processing and sulphur plants and compressor and meter stations	$7,176,200	29 Sept. 1982	XGM-14-82

G-II (Cont'd)

ORDERS RELATING TO NEW GAS PIPELINE FACILITIES ISSUED DURING 1982 — CLASS "C" CONSTRUCTION

APPLICANT	FACILITIES	ESTIMATED COST	ISSUED	ORDER NO.
	Line break operators at Stewart Creek	$66,000	20 Oct. 1982	XGM-15-82
	Pipeline improvements, processing and sulphur plant improvements, compressor and meter station additions, etc.	$4,579,300	3 Nov. 1982	XMG-16-82
	Pipeline improvements, processing and sulphur plant improvements, compressor and meter station additions, etc.	$2,902,000	1 Dec. 1982	XGM-17-82

G-III

NEW LICENCES AND ORDERS TO EXPORT NATURAL GAS, ETHANE, ETHYLENE, PROPANE AND BUTANES IN 1982

TYPE OF ORDER	LICENSEE	ORDER NUMBER	POINT OF EXPORT	TERM OF ORDER		MAXIMUM
				FROM	TO	
New Ethylene Export Orders	1. Esso Chemical Canada	EYL-1-82	Fort Erie, Ont.	82-04-01	83-03-31	3 500 000 kilograms
	2. Petrosar Limited	EYL-2-82	Sarnia, Ont.	82-11-09	83-03-31	9 071 850 kilograms
New Propane Export Order	1. Dome Petroleum Limited	EPR-927-82	Sarnia, Ont.	82-11-23	83-02-28	23 810 m^3 imported by Dome for reprocessing.
New Butanes Export Orders	1. Texaco Canada Inc.	EBU-916-82	Gretna, Man.	82-07-01	92-06-30	No maximum export volume so long as the same butanes are imported within 30 days.
	2. Dome Petroleum Limited	EBU-927-82	Sarnia, Ont.	82-09-21	82-12-31	7 950 m^3 imported by Dome for reprocessing.

G-III (Cont'd)

NEW LICENCES AND ORDERS TO EXPORT NATURAL GAS, ETHANE, ETHYLENE, PROPANE AND BUTANES IN 1982

TYPE OF ORDER	LICENSEE	ORDER NUMBER	DATE OF ISSUE	COMMENTS
Orders Amending Existing Natural Gas Export Licences	1. Canadian-Montana Pipe Line Company	AO-19-GL-5	82-07-12	Amendment establishing Emerson, Manitoba and Niagara Falls, Ontario as additional points of export.
	2. Niagara Gas Transmission Limited	AO-27-GL-6	82-05-21	Amendment establishing that the price to be received for gas exported as peaking service gas, including all transmission costs to the international boundary, shall be the aggregate of (a) the price prescribed in the Natural Gas Prices Regulations, 1981, for gas sold as peaking service gas, and (b) the cost of transportation of the gas on the Niagara Gas Transmission Limited System from Cornwall to the international boundary calculated in accordance with the contract dated March 1, 1982, between Niagara Gas Transmission Limited and St. Lawrence Gas Company Inc.
	3. Canadian-Montana Pipe Line Company	AO-17-GL-17	82-01-21	Amendment establishing Emerson, Manitoba and Niagara Falls, Ontario as additional points of export during the period ending 31 October 1985. Exports through these points are to be on an interruptible basis.
	4. Canadian-Montana Pipe Line Company	AO-18-GL-17	82-07-12	See Item 1.
	5. TransCanada PipeLines Limited	AO-19-GL-19	82-02-18	Amendment which increases the daily volume limitation on exports during the period 82-11-01 to 83-04-15. This amendment also varies condition 5 of the licence dealing with the price to be received for gas exported as peaking service gas.
	6. TransCanada PipeLines Limited	AO-20-GL-19	82-04-20	Amendment, which increase the daily volume limitation on exports as set out in condition 2 of the licence. This amendment also varies condition 5 of the licence dealing with the price to be received for gas exported as peaking service gas.
	7. Canadian-Montana Pipe Line Company	AO-20-GL-25	82-07-12	See Item 1.
	8. Canadian-Montana Pipe Line Company	AO-15-GL-36	82-01-21	See Item 3.
	9. Canadian-Montana Pipe Line Company	AO-16-GL-36	82-08-09	Amendment, which deletes Emerson, Manitoba and Niagara Falls, Ontario as authorized points of export.
	10. Westcoast Transmission Company Limited	AO-25-GL-41	82-04-20	Amendment, which increases the daily volume limitation on exports and adds Monchy, Saskatchewan as a point of export.

G-III (Cont'd)

NEW LICENCES AND ORDERS TO EXPORT NATURAL GAS, ETHANE, ETHYLENE, PROPANE AND BUTANES IN 1982

TYPE OF ORDER	LICENSEE	ORDER NUMBER	DATE OF ISSUE	COMMENTS
Orders Amending Existing Natural Gas Export Licences	11. TransCanada Pipelines Limited	AO-20-GL-43	81-11-26	Amendment, which consolidates the fuel gas components of export licences GL-20 and GL-37 which is used in the transportation of gas to eastern Canada by Great Lakes Gas Transmission Company, under a single export licence GL-43.
	12. Canadian-Montana Pipe Line Company	AO-3-GL-52	82-01-21	See Item 3.
	13. Canadian-Montana Pipe Line Company	AO-4-GL-52	82-08-09	See Item 9.
	14. Canadian-Montana Pipe Line Company	AO-3-GL-53	82-07-12	See Item 1.
	15. Columbia Gas Development of Canada Ltd.	AO-4-GL-54	82-04-20	Amendment establishing Monchy, Saskatchewan as an additional export point during the period 82-11-01 to 87-10-31.
	16. Sulpetro Limited	AO-6-GL-57	82-07-29	Amendment, which provides for a de minimus increase in the daily, annual and term quantities of gas that may be exported necessitated by a descrepancy between the conversion of the Imperial Units applied for in Sulpetro's 13 June 1978 application and the SI units authorized under the licence.
	17. Consolidated Natural Gas Limited	AO-5-GL-61	82-07-29	Amendment, which increases the daily volume limitation on exports at Emerson, Manitoba and Monchy, Saskatchewan during the period 82-11-01 to 83-10-31.
Orders Amending Existing Ethane Export Licences	1. Dome Petroleum Limited	AO-5-GL-47	81-12-23	Amendment establishing that the price to be received for the ethane exported not be less than the price determined pursuant to the agreement dated 73-01-08 between Dome Petroleum Limited and Columbia LNG Corporation as amended by an agreement dated 81-11-19.
	2. Dome Petroleum Limited	AO-1-GL-51	81-12-23	See Item 1.
Order Amending Existing Ethylene Export Licence	1. Esso Chemical Canada	AO-1-EYL-1-82	82-04-20	Amendment establishing that the price to be received for the ethylene exported not be less than the U.S. Gulf coast price for ethylene plus 4.4 U.S. cents per kilogram, f.o.b. Sarnia Ontario, less a reseller's discount of 5%, converted to Canadian funds.
Order Amending Existing Propane Export Licence	1. Dome Petroleum Limited	AO-5-GL-46	82-06-03	Amendment, which increases the volume of imported propane which may be re-exported during the period 82-04-01 to 84-03-31.
Order Amending Existing Propane Export Order	1. NGL Supply Limited	AO-2-EPR-926-81	82-02-22	Amendment, which extends the duration of the order to 82-03-31 and adds Stanstead, Quebec as an export point.

G-IV

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM		
			FROM	TO	DAILY 10^3 m^3	ANNUAL 10^6 m^3	TERM 10^6 m^3
NATURAL GAS							
1. Alberta & Southern Gas Co. Ltd	GL-3 (AO-16)	Kingsgate, B.C.	61-10-31	86-10-30	12 995.4	4 341.8	
			86-10-31	87-10-31	3 248.9	1 085.5	109 467.8
2. Westcoast Transmission Company Limited	GL-4 (AO-17)	Kingsgate, B.C.	61-12-10	81-12-09	4 305.8	1 444.7	
			81-12-10	82-10-31	4 305.8	1 300.0	
			82-11-01	84-10-31	4 305.8	1 444.7	
			84-11-01	85-10-31	3 229.4	1 083.5	
			85-11-01	86-10-31	2 152.9	722.4	
			86-11-01	87-10-31	1 076.5	361.2	35 250.9
3. Canadian-Montana Pipe Line Company	GL-5 (AO-19)	Cardston, Alta.	61-10-31[g]	86-10-30	1 019.8	310.2	
		Emerson, Man. & Niagara Falls, Ont.	86-10-31	87-10-31	255.0	77.6	7 832.3
		Aden, Alta.	76-05-11	79-12-31	[a]	[a]	
4. Niagara Gas Transmission Limited	GL-6 (AO-27)	Cornwall, Ont.	62-09-07	87-06-30	849.8	184.1	
			70-12-23	71-12-31	849.8	189.8	
			76-11-01	77-10-31	849.8	170.0	3 433.0
5. Alberta & Southern Gas Co. Ltd.	GL-16 (AO-13)	Kingsgate, B.C.	66-11-01	67-10-31	3 204.6	1 059.9	
			67-11-01	89-10-31	6 409.2	2 119.8	45 721.1
6. Canadian-Montana Pipe Line Company	GL-17 (AO-18)	Cardston, Alta.	66-11-01	67-10-31	339.9	103.4	
		Emerson, Man. & Niagara Falls, Ont.	67-11-01[g]	89-10-31	679.9	206.8	
		Aden, Alta.	76-05-11	79-12-31	[a]	[a]	
7. TransCanada PipeLines Limited	GL-18 (AO-26)	Emerson, Man. & Niagara Falls, Ont.[d]	65-11-01	68-10-31	708.2	226.6[b]	
			66-11-01	89-10-31	4 277.5[c]	1 481.5	33 993.4
8. TransCanada PipeLines Limited	GL-19 (AO-20)	Philipsburg, Qué.	65-11-01	82-10-31	600.6	184.1	
			82-11-01	83-10-31	634.5	184.1	
			83-11-01	84-10-31	657.2	184.1	
			84-11-01	85-10-31	679.9	184.1	
			85-11-01	86-10-31	702.5	184.1	
			86-11-01	89-10-31	725.2	184.1	3 059.4
9. TransCanada PipeLines Limited	GL-20 (AO-28)	Emerson, Man.	67-11-01	91-10-31	2 662.8[c]	909.3	21 670.8
10. TransCanada PipeLines Limited	GL-21 (AO-7)[e]	Emerson, Man.	68-11-05	91-10-31	N/S	7 019.1	169 967.0
11. Alberta & Southern Gas Co. Ltd.	GL-24 (AO-15)	Kingsgate, B.C.	68-11-01	69-10-31	3 427.7	1 102.0	
			69-11-01	91-10-31	6 685.4	2 206.7	
			91-11-01	93-10-31	3 835.6	1 263.4	52 177.0
12. Canadian-Montana Pipe Line Company	GL-25 (AO-20)	Cardston, Alta.	68-11-01	69-10-31	339.9	103.4	
		Emerson, Man. & Niagara Falls, Ont.	69-11-01[g]	91-10-31	679.9	206.8	
			91-11-01	93-10-31	390.9	119.0	
		Aden, Alta.	73-03-27[f]	74-05-14	2 817.5	563.5	
			74-05-14	75-05-14	2 817.5	563.5	
			75-05-14	76-05-14	2 817.5	283.3	

G-IV (Cont'd)

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM		
			FROM	TO	DAILY 10^3 m^3	ANNUAL 10^6 m^3	TERM 10^6 m^3
NATURAL GAS							
			76-05-14	77-05-14	1 408.7	141.6	4 890.8
			76-05-11	79-12-31	[a]	[a]	
13. ICG Transmission Holdings Limited	GL-28 (AO-15)	Sprague, Man.	70-11-01	95-10-31	80.3	9.5	229.0
14. ICG Transmission Holdings Limited	GL-29 (AO-16)	Fort Frances, Ont.	70-11-01	95-10-31	915.6	218.5	5 462.2
15. ICG Transmission Holdings Limited	GL-30 (AO-3)[h]	Sprague, Man.	70-11-01	95-10-31	1 321.8	344.0	8 498.1
16. Alberta and Southern Gas Co. Ltd.	GL-35 (AO-13)	Kingsgate, B.C.	70-11-01	85-10-31	5 807.2	1 912.1	
			85-11-01	86-10-31	2 903.6	956.1	
			86-11-01	87-10-31	1 451.8	478.1	30 116.1
17. Canadian-Montana Pipe Line Company	GL-36 (AO-16)	Cardston, Alta.	70-11-01	85-10-31	339.9	103.4	
			85-11-01	86-10-31	170.0	51.7	
			86-11-01	87-10-31	85.0	25.9	1 628.5
		Aden, Alta.	76-05-11	79-12-31	[a]	[a]	
		Emerson Man. & Niagara Falls, Ont.	82-03-04	82-10-31	[g]	[g]	
18. TransCanada PipeLines Limited	GL-37 (AO-21)	Emerson, Man.	70-11-01	90-10-31	5 546.6[c]	2 030.1	40 601.0
19. TransCanada PipeLines Limited	GL-38 (AO-13)	Emerson, Man.	70-11-01	90-10-31	1 416.4	518.4	10 368.0
20. TransCanada PipeLines Limited	GL-39 (AO-13)	Emerson, Man	70-11-01	90-10-31	204.0	74.6	1 493.0
21. Westcoast Transmission Company Limited	GL-41 (AO-25)	Huntingdon, B.C.[i]	71-11-01	72-10-31	20 773.9	7 223.1	
			72-11-01	80-10-31	22 922.9	[j]	
			80-11-01	89-10-31	24 622.6	[j]	142 853.3
		Monchy, Sask.	82-11-01	89-10-31	1 274.8	419.5	
22. TransCanada PipeLines Limited	GL-42 (AO-3)[g]	Emerson, Man.	71-04-15	71-10-31	N/S	232.8	
			71-11-01	94-10-31	N/S	2 612.3	60 316.5
23. TransCanada PipeLines Limited	GL-43 (AO-20)	Emerson, Man.	71-11-01	91-10-31	N/S	481.6	9 631.5
24. Consolidated Natural Gas Limited	GL-44[k]	Emerson, Man.	72-03-15	92-10-31	4 249.2	1 274.8	18 951.3
25. Tenneco LNG Inc.	GL-49	St. Stephen, N.B.	[l]	[m]	32 295.0	11 820.0	[n]

G-IV (Cont'd)

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM		
			FROM	TO	DAILY 10^3 m^3	ANNUAL 10^6 m^3	TERM 10^6 m^3
NATURAL GAS							
26. Canadian-Montana Pipe Line Company	GL-52 (AO-4)	Aden, Alta.	80-01-01	84-12-31	1 416.4	283.3	
			85-01-01	85-12-31	1 062.3	212.5	
			86-01-01	86-12-31	708.2	141.6	
			87-01-01	87-12-31	354.1	70.8	1 841.4
		Emerson, Man. & Niagara Falls, Ont.	82-03-04	82-10-31	(g)	(g)	
27. Canadian-Montana Pipe Line Company	GL-53 (AO-3)	Cardston, Alta.	86-07-01[g]	86-10-31	340.0		34.5
		Emerson, Man. & Niagara Falls, Ont.	86-11-01	87-10-31	170.0		51[f] 86.2
28. Columbia Gas Development of Canada Ltd.	GL-54 (AO-4)	Huntingdon, B.C.	80-01-01	80-10-31	1 110.4	368.3	
			81-11-01	81-12-31	1 450.0	70.8	
			82-01-01	84-12-31	1 450.0	423.5	
			85-01-01	85-12-31	832.8	276.2	
			86-01-01	86-12-31	555.2	184.2	
			87-01-01	87-12-31	277.6	92.1	2 394.0
		Maximum permitted at Monchy, Sask. as part of combined Huntingdon/ Monchy volumes.	82-11-02	87-10-31	283.3	92.1	
29. Niagara Gas Transmission Limited	GL-55 (AO-2)	Cornwall, Ont.	80-01-01	80-10-31	350.0	89.1	
			80-11-01	84-10-31	350.0	89.1	
			84-11-01	85-10-31	262.5	66.8	
			85-11-01	86-10-31	600.0	136.8	
			86-11-01	87-10-31	300.0	68.4	717.5
30. ProGas Limited	GL-56 (AO-3)	Emerson, Man. and Monchy, Sask. (combined maximum)	80-11-01	84-10-31	9 440.9	3 100.0	
			84-11-01	85-10-31	7 088.7	2 325.0	
			85-11-01	86-10-31	4 720.4	1 550.0	
			86-11-01	87-10-31	2 360.2	775.0	17 050.0
		Maximum permitted at Monchy, Sask. as part of combined Emerson/ Monchy volumes.	81-11-01	82-10-31	2 613.7	954.0	
			82-11-01	85-10-31	4 849.4	1 770.0	
			85-11-01	86-10-31	4 249.2	1 550.0	
			86-11-01	87-10-31	2 124.6	775.0	(7 648.5)[q]
31. Sulpetro Limited	GL-57 (AO-6)	Niagara Falls, Ont.	80-01-01	80-10-31	2 089.1[f]	612.8	
			80-11-01	82-10-31	2 089.1[f]	762.5	
			82-11-01	82-11-03	2 089.1	606.8[f]	
			82-11-04	83-10-31	2 125.0	606.8[f]	1 838.4
32. Pan-Alberta Gas Ltd.	GL-58 (AO-3)	Monchy, Sask.	81-11-01	84-10-31	24 928.5	8 294.4	
			84-11-01	85-10-31	18 696.4	6 220.8	
			85-11-01	86-10-31	12 464.3	4 147.2	
			86-11-01	87-10-31	6 232.1	2 073.6	
					(13 605.1)[s]	[s]	
			87-11-01	88-10-31	24 928.5[s]	[s]	37 324.8

G-IV (Cont'd)

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM		
			FROM	TO	DAILY 10^3 m^3	ANNUAL 10^6 m^3	TERM 10^6 m^3
NATURAL GAS							
33. Pan-Alberta Gas Ltd.	GL-59 (AO-3)	Kingsgate, B.C.	80-11-01	84-10-31	7 478.6	2 488.3	
			84-11-01	85-10-31	5 608.9	1 866.2	
			85-11-01	86-10-31	3 739.3	1 244.2	
			86-11-01	87-10-31	1 869.0	622.1	
			87-11-01	88-10-31	7 478.6	[t]	13 685.7
34. TransCanada PipeLines Limited	GL-60 (AO-2)	Emerson, Man.	80-01-01	80-10-31	6 317.1[tu]	800.0	
			80-11-01	84-10-31	6 317.1[tu]	2 096.3	
			84-11-01	85-10-31	4 737.8	1 572.2	
			85-11-01	85-12-14	3 158.6	139.0	10 896.4
35. Consolidated Natural Gas Limited	GL-61 (AO-5)	Emerson, Man. and Monchy, Sask. (combined maximum)	80-11-01	84-10-31	5 665.6[o]	2 067.9	
			84-11-01	85-10-31	4 249.2	1 551.0	
			85-11-01	86-10-31	2 832.8	1 034.0	
			86-11-01	87-10-31	1 416.4	517.0	11 373.6
		Maximum permitted at Monchy, Sask. as part of combined Emerson/ Monchy volumes.	81-11-01	85-10-31	3 232.9[o]	1 180.0	
			85-11-01	86-10-31	2 832.8	1 034.0	
			86-11-01	87-10-31	1 416.4	517.0	(5 099.0)[v]
36. Canadian-Montana Pipe Line Company	GO-3-79 (AO-2)	Section 1, Township 1, Range 20 West of the Meridian, Alta.	79-05-01	93-12-31	30.0	10.3	105.0
37. Pan-Alberta Gas Ltd.	GL-62 (AO-1)	Monchy, Sask.	84-11-01	85-10-31	6 232.1	2 073.6	
			85-11-01	86-10-31	12 464.2	4 147.2	
			86-11-01	87-10-31	5 091.3	1 694.0	7 914.8
38. Pan-Alberta Gas Ltd.	GL-63 (AO-1)	Kingsgate, B.C.	80-11-01	83-10-31	931.5[w]	340.0[w]	
			83-11-01	84-10-31	1 869.7	622.1	
			84-11-01	85-10-31	3 739.4	1 244.2	
			85-11-01	86-10-31	5 609.0	1 866.2	
			86-11-01	87-10-31	7 478.6	2 488.3	6 220.8[x]
39. Union Gas Limited	GL-64 (AO-1)	Windsor, Ont.	80-11-01	85-10-31	1 100.0	284.0	1 420.0

(a) Notwithstanding the named point of export at Cardston, Alta., gas was allowed to be exported at Aden, Alta., provided the combined volume exported at Aden under Licences GL-5, GL-17, GL-25 and GL-36 did not exceed 2 817.5 × 10^3m^3/day or 563.5 × 10^6m^3/year during the period 76-05-11 to 79-12-31.

(b) Exports of interruptible gas were authorized during the period 65-11-01 to 68-10-31 to a maximum total volume of 226.6 × 10^6m^3.

(c) During the period 80-11-01 to 82-10-31, the Licensee is authorized to export additional volumes in excess of the daily maximum under Licences GL-18, GL-20 and GL-37, such additional volumes being subject to interruption for Canadian domestic requirements. The annual combined quantity of these interruptible volumes under the three licences should not exceed 1 983.0 × 10^6m^3 during the period 80-11-01 to 81-10-31, and 1 400.0 × 10^6m^3 during the period 81-11-01 to 82-10-31.

(d) Notwithstanding Emerson, Manitoba as the point of export, the Licensee has been authorized to export volumes of gas on an interruptible basis at Niagara Falls, Ontario during the periods 79-10-16 to 79-12-16; and 80-06-05 to 82-10-31.

(e) This licence authorizes an export near Emerson, Manitoba for re-import near Sault Ste. Marie and Sarnia, Ontario to serve Eastern Canadian markets.

(f) Exports of gas were authorized for Aden, Alta., commencing on the day when the term quantity of gas authorized by Licence GL-8 was exported (approximately June 1973).

(g) Emerson, Man. and Niagara Falls, Ont. were added as additional export points to GL-5, GL-17, GL-25 and GL-53 effective 82-11-01 and to GL-36 and GL-52 for the period 82-03-04 to 82-10-31.

(h) This licence authorizes an export near Sprague, Manitoba for re-import near Rainy River, Ontario.

(i) Notwithstanding the Huntingdon, B.C. export point, the Licensee was authorized to export gas at a place near Kingsgate, B.C. during the period from 73-11-01 to 79-10-31. Effective 82-11-01 volumes authorized through Monchy, Sask. are additional to the daily and annual volumes authorized to be exported at Huntingdon, B.C.

G-IV (cont'd)

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM VOLUMES (m^3)
			FROM	TO	
PROPANE					
1. Dome Petroleum Limited	GL-31 (AO-7)	Any point on the international boundary between Canada and the United Stated	79-01-01	79-12-31	716 983
			80-01-01	80-12-31	688 571
			81-01-01	81-12-31	656 190
			82-01-01	82-12-31	620 476
			83-01-01	83-12-31	133 254
			84-01-01	84-12-31	133 254
			85-01-01	85-12-31	133 254
			86-01-01	86-12-31	133 254
			87-01-01	87-12-31	143 809
			88-01-01	88-12-31	193 016
			89-01-01	89-12-31	196 984
			90-01-01	90-12-31	169 047
			91-01-01	91-12-31	165 873
			92-01-01	92-12-31	165 079
			93-01-01	93-12-31	162 098
			94-01-01	94-12-31	103 968
2. Amoco Canada Petroleum Company Limited	GL-32 (AO-5)	Any point on the international boundary between Canada and the United States	79-01-01	79-12-31	92 698
			80-01-01	80-12-31	92 698
			81-01-01	81-12-31	92 698
			82-01-01	82-12-31	92 698
			83-01-01	83-12-31	92 698
			84-01-01	84-12-31	92 698
			85-01-01	85-12-31	92 698
			86-01-01	86-12-31	92 698
			87-01-01	87-12-31	92 698
			88-01-01	88-12-31	92 698
			89-01-01	89-12-31	92 698
			90-01-01	90-12-31	92 698
			91-01-01	91-12-31	92 698
			92-01-01	92-12-31	92 698
			93-01-01	93-12-31	92 698
			94-01-01	94-12-31	77 206
3. PanCanadian Gas Products Limited	GL-34 (AO-6)	Any point on the international boundary between Canada and the United States	79-01-01	79-12-31	63 730
			80-01-01	80-12-31	63 730
			81-01-01	81-12-31	63 730
			82-01-01	82-12-31	63 730
			83-01-01	83-12-31	63 730
			84-01-01	84-12-31	63 730
			85-01-01	85-12-31	63 730
			86-01-01	86-12-31	53 175
			87-01-01	87-12-31	3 968
4. Dome Petroleum Limited	GL-46 (AO-5)[a]	Any point on the international boundary between Canada and the United States	78-04-01	79-03-31	619 047
			79-04-01	80-03-31	601 587
			80-04-01	81-03-31	547 619

(i) For the period 72-11-01 to 89-10-31, the Licensee is authorized to export an average annual quantity of gas of 7 970.3 × $10^6 m^3$ or a maximum of 8 389.8 × $10^6 m^3$ in any consecutive twelve-month period ending on the 31st day of October.

(h) The quantity of gas exported under this licence shall be equal to the quantities of gas which the licensee imports pursuant to Licence No. GLI-5.

(l) From the date of Initial Delivery.

(m) Twenty years and six months after the date of the First Regular Delivery or a total term from Initial Delivery not exceeding 25 years.

(n) The total gas or equivalent quantity expressed in cubic metres of the liquefied natural gas imported pursuant to Licence GLI-7.

G-IV (cont'd)

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM VOLUMES (m^3)
			FROM	TO	
PROPANE					
			81-04-01	82-03-31	468 254
			82-04-01	83-03-31	535 000
			83-04-01	84-03-31	535 000
5. Dome Petroleum Limited	EPR-917-79[c]	Any place on the international boundary between Canada and the United States	79-09-06	96-01-31	Not Specified
6. Amoco Canada Petroleum Company Limited	EPR-918-79[c]	Same as EPR-917-79	79-09-06	96-01-31	Not Specified
7. PanCanadian Gas products Limited	EPR-919-79[c]	Same as EPR-917-79	79-09-06	91-01-31	Not Specified
8. Imperial Oil Limited	EPR-922-80[b]	Gretna, Man.	80-09-01	90-08-31	Not Specified
9. Dome Petroleum Limited	EPR-927-82[d]	Sarnia, Ont.	82-11-23	83-02-28	23 810

(o) For the period 82-11-04 to 83-10-31 an additional daily volume of 2 832.8 × 10^3m^3/d may be exported at the combined Emerson and Monchy export points, of which a maximum additional daily volume of 2 432.7 × 10^3m^3/d may be exported at the Monchy export point subject to interruption to meet Canadian and other export requirements.

(p) The quantity of gas that may be exported in any consecutive twelve-month period ending on the 31st day of October under this licence together with the quantity of gas that may be exported under Licence GL-25 shall not exceed 206.8 × 10^6m^3.

(q) For the six years period from 81-11-01 to 87-10-31, the Licensee is authorized to export at Monchy, Saskatchewan a maximum volume of gas of 7 648.5 × 10^6m^3.

(r) The Licensee may exceed the daily limitation of 2 089.1 × 10^3m^3/d during the period 80-11-01 to 82-11-03, and 2 125.0 × 10^3m^3/d during the period 82-11-04 to 83-10-31 subject to interruption for TransCanada's domestic and export service. The quantity exported during the period 82-11-01 to 83-10-31 may not exceed the lesser of 612.8 × 10^6m^3 or the difference between the term volume and the total quantity exported to 82-10-31.

(s) "Additional" volumes, i.e. make-up gas equal to the difference between the authorized volume minus the actual volume exported over the 1981/82 licence period, may be exported during 86-11-01/87-10-31 to a maximum of 13 605.1 × 10^3m^3/d and 4 526.8 × 10^6m^3/a. Any "additional" volumes still left unexported in the period 1981/82 less the 1986/87 export of "additional" volumes may be exported during the "extended" period 87-11-01/88-10-31. "Additional" volumes authorized during 86-11-01/88-10-31 are subject to reduction depending on Canadian deliverability requirements.

(t) For the extended period 87-11-01/88-10-31, the Licensee may export the difference between the authorized quantity during 80-11-01/81-10-31 and the actual quantity exported in such period, subject to reduction depending on Canadian deliverability requirements.

(u) During the period ending 81-05-14, the total quantity of gas that may be exported in any one day shall not exceed the difference between 6 317.1 × 10^3m^3 and the quantity of gas exported under Licence GL-1 on that day.

(v) For the six year period from 81-11-01 to 87-10-31, the Licensee is authorized to export at Monchy, Saskatchewan a maximum volume of 5 099.0 × 10^6m^3.

(w) The total volume of gas exported during the period 80-11-01 to 83-10-31 shall reduce by the same amount the total term volume of gas authorized to be exported during the balance of the term of this licence (i.e. 83-11-01/87-10-31).

(x) For the period 85-11-01/87-10-31, 1 588.0 × 10^6m^3 are conditional volumes and could be reduced should deliverability be insufficient to meet Canadian requirements and authorized exports.

N/S Not Specified

G-IV (cont'd)

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM VOLUMES (m^3)
			FROM	TO	
BUTANES					
1. Dome Petroleum Limited	EBU-1-74 (AO-3)[a]	Any place on the international boundary between Canada and the United States	78-04-01	79-03-31	792 461
			79-04-01	80-03-31	773 405
			80-04-01	81-03-31	689 235
			81-04-01	82-03-31	587 597
			82-04-01	83-03-31	528 837
			83-04-01	84-03-31	433 551
2. Dome Petroleum Limited	EBU-132-74 (AO-1)[b]	Gretna, Man.	79-01-01	79-12-31	603 129
			80-01-01	80-12-31	580 324
			81-01-01	81-12-31	556 375
			82-01-01	82-12-31	532 601
			83-01-01	83-12-31	502 284
			84-01-01	84-12-31	452 037
			85-01-01	85-12-31	437 093
			86-01-01	86-12-31	402 186
			87-01-01	87-12-31	352 812
			88-01-01	88-12-31	341 711
			89-01-01	89-12-31	315 460
			90-01-01	90-12-31	299 627
			91-01-01	91-12-31	290 273
			92-01-01	92-12-31	272 057
			93-01-01	93-12-31	265 117
			94-01-01	94-12-31	245 012
			95-01-01	95-12-31	239 724
3. Amoco Canada Petroleum Company Limited	EBU-133-74 (AO-1)[b]	Gretna, Man.	79-01-01	79-12-31	618 088
			80-01-01	80-12-31	575 893
			81-01-01	81-12-31	540 176
			82-01-01	82-12-31	488 674
			83-01-01	83-12-31	423 848
			84-01-01	84-12-31	374 315
			85-01-01	85-12-31	359 244
			86-01-01	86-12-31	308 345
			87-01-01	87-12-31	260 131
			88-01-01	88-12-31	239 549
			89-01-01	89-12-31	205 008
			90-01-01	90-12-31	179 455
			91-01-01	91-12-31	163 527
			92-01-01	92-12-31	135 973
			93-01-01	93-12-31	122 506
			94-01-01	94-12-31	95 286
			95-01-01	95-12-31	91 062

G-IV (cont'd)

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM VOLUMES (m^3)
			FROM	TO	
BUTANES					
4. PanCanadian Gas Products Limited	EBU-134-74 (AO-1)[b]	Gretna, Man.	79-01-01	79-12-31	213 822
			80-01-01	80-12-31	213 822
			81-01-01	81-12-31	213 822
			82-01-01	82-12-31	213 822
			83-01-01	83-12-31	213 822
			84-01-01	84-12-31	240 550
			85-01-01	85-12-31	240 550
			86-01-01	86-12-31	240 550
			87-01-01	87-12-31	240 550
			88-01-01	88-12-31	240 550
			89-01-01	89-12-31	240 550
			90-01-01	90-12-31	240 550
5. Imperial Oil Limited	EBU-911-80[b]	Gretna, Man.	80-09-01	90-08-31	Not Specified
6. Texaco Canada Inc.	EBU-916-82[b]	Gretna, Man.	82-07-01	92-06-30	Not Specified
7. Dome Petroleum Limited	EBU-927-82[f]	Sarnia, Ont.	82-09-21	82-12-31	7 950

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM VOLUMES (m^3)
			FROM	TO	
ETHANE					
1. Dome Petroleum Limited	GL-45 (AO-5)[g]	Any point on the international boundary between Canada and the United States	78-04-01	79-03-31	530 325
			79-04-01	80-03-31	537 245
			80-04-01	81-03-31	547 703
			81-04-01	82-03-31	565 080
			82-04-01	83-03-31	571 399
			83-04-01	84-03-31	549 883
2. Dome Petroleum Limited	GL-47 (AO-5)	Elmore, Sask. and Windsor, Ont.	78-08-15	78-12-31	835 298
			79-01-01	79-12-31	2 211 664
			80-01-01	80-12-31	2 195 866
			81-01-01	81-12-31	2 053 688
			82-01-01	82-12-31	1 563 962
			83-01-01	83-12-31	1 405 986
			84-01-01	84-12-31	1 184 820
			85-01-01	85-12-31	458 130
3. Dome Petroleum Limited	GO-1-76 (AO-1)[h]	Elmore, Sask.	78-01-01	85-12-31	3 949 m^3/a
4. Dome Petroleum Limited	GL-51 (AO-1)	Elmore, Sask. and Windsor, Ont.	79-06-21	93-12-31	19 069 000

G-IV (cont'd)

CURRENT LICENCES AND ORDERS TO EXPORT NATURAL GAS, PROPANE, BUTANES, ETHANE, AND ETHYLENE AS AT 31 DECEMBER 1982

EXPORTER	LICENCE OR ORDER NUMBER	POINT OF EXPORT	TERM OF LICENCE OR ORDER		MAXIMUM VOLUMES (kg)
			FROM	TO	
ETHYLENE					
1. Dow Chemical of Canada Limited	EYL-1-76 (AO-2)	Elmore, Sask. Sarnia and Windsor Ont.	80-01-01	89-12-31	158 757 340 kg/a
2. Dow Chemical of Canada Limited	EYL-2-76 (AO-1)[i]	E.nore, Sask.	78-01-01	97-12-31	68 038 860 kg/a
3. Dow Chemical of Canada Limited	EYL-1-81	Sarnia, Ont.	82-01-01	82-12-31	9 000 000 kg
4. Esso Chemical Canada	EYL-1-82 (AO-1)	Fort Erie, Ont.	82-04-01	83-03-31	3 500 000 kg
5. Petrosar Limited	EYL-2-82	Sarnia, Ont.	82-11-09	83-03-31	9 071 850 kg

(a) This is an import-export licence whereby propane imported at Sarnia or Windsor may be exported at any place on the international boundary between Canada and the United States.
(b) This order authorizes an export at Gretna, Manitoba for subsequent import at Sarnia, Ontario.
(c) This order authorizes an export of propane at any point on the international boundary between Canada and the United States and subsequent import of the same propane within 30 days after the day of export.
(d) This order authorizes an export at Sarnia, Ontario of propane that was previously imported by Dome for reprocessing at Dome's Sarnia fractionation plant.
(e) This order authorizes an import at Sarnia or Windsor, Ontario for subsequent export at any place on the international boundary between Canada and the United States.
(f) This order authorizes an export at Sarnia, Ontario of butanes that were previously imported by Dome for reprocessing at Dome's Sarnia fractionation plant.
(g) This licence authorizes an export at any point on the international boundary between Canada and the United States. The quantity of ethane exported under the authority of this licence shall be equal to the quantities of ethane which the licensee imports near Sarnia and Windsor, Ontario.
(h) This order authorizes an export of ethane at Elmore, Saskatchewan for subsequent import at Windsor, Ontario.
(i) This order authorizes an export of ethylene at Elmore, Saskatchewan for subsequent import at Windsor, Ontario.

G-V
EXPORTS OF NATURAL GAS

Exporter and Licence/Order[a]	10^6 m^3						
	Cumulative[b] to 79-12-31	1980	1981	1982	Cumulative[b] to 82-12-31	Total Authorized Exports	Remaining[c] Under Licences
1. TransCanada PipeLines Limited GL-1	38 866.1	927.7	148.5	—	39 942.3	39 942.3	—
2. Alberta & Southern Gas Co. Ltd. GL-3	78 458.6	3 998.2	3 514.5	3 729.2	89 700.5	109 467.8	19 767.3
3. Westcoast Transmission Company Limited GL-4	23 362.0	1 051.7	928.8	738.6	26 081.1	35 250.9	9 169.8
4. Canadian-Montana Pipe Line Company GL-5	5 715.0	207.9	255.0	206.5	6 384.5	7 832.3	1 447.8
5. Niagara Gas Transmission Limited GL-6	2 321.4	151.2	108.3	68.4	2 649.3	3 433.0	783.7
6. Alberta & Southern Gas Co. Ltd. GL-16	26 209.7	1 666.7	1 387.6	317.8	29 581.8	45 721.1	16 159.3
7. Canadian-Montana Pipe Line Company GL-17	2 691.0	139.8	124.3	79.5	3 034.5	4 652.8	1 618.3
8. TransCanada PipeLines Limited GL-18	15 945.0	1 929.4	1 092.5	236.6	19 203.6	33 993.4	14 789.8
9. TransCanada PipeLines Limited GL-19	1 233.7	119.6	130.0	128.0	1 611.3	3 059.4	1 448.1
10. TransCanada PipeLines Limited GL-20	9 836.9	889.6	860.1	790.7	12 377.4	21 670.8	9 293.4
11. TransCanada PipeLines Limited GL-21	66 426.6	5 314.5	5 882.8	5 191.1	82 815.0	169 967.0	87 152.0
12. Alberta & Southern Gas Co. Ltd. GL-24	22 896.3	1 699.3	1 352.4	1 281.4	27 229.4	52 177.0	24 947.6
13. Canadian-Montana Pipe Line Company GL-25	3 487.4	21.0	5.2	2.7	3 516.3	4 890.8	1 374.5
14. ICG Transmission Holdings Limited GL-28	72.4	8.9	7.9	9.0	98.2	229.0	130.8
15. ICG Transmission Holdings Limited GL-29	1 811.5	160.6	148.7	135.1	2 256.9	5 462.2	3 705.3
16. ICG Transmission Holdings Limited GL-30	2 657.0	278.2	252.2	233.8	3 421.3	8 498.1	5 076.8

G-V (cont'd)
EXPORTS OF NATURAL GAS

Exporter and Licence/Order[a]	10^6 m^3						
	Cumulative[b] to 79-12-31	1980	1981	1982	Cumulative[b] to 82-12-31	Total Authorized Exports	Remaining[c] Under Licences
17. Alberta & Southern Gas Co. Ltd. GL-35	17 337.3	1 556.8	1 166.7	1 864.9	21 925.7	30 116.1	8 190.4
18. Canadian-Montana Pipe Line Company GL-36	854.8	75.1	122.8	100.2	1 153.0	1 628.5	475.5
19. TransCanada PipeLines Limited GL-37	18 577.8	1 769.8	1 760.7	1 647.0	23 755.4	40 601.0	16 845.6
20. TransCanada PipeLines Limited GL-38	4 721.8	363.0	373.0	200.0	5 677.8	10 368.0	4 690.2
21. TransCanada PipeLines Limited GL-39	681.3	60.6	49.5	12.0	803.4	1 493.0	689.6
22. Westcoast Transmission Company Limited GL-41	54 290.3	4 376.3	3 805.1	2 608.3	65 080.0	142 853.3	77 773.3
23. TransCanada PipeLines Limited GL-42	18 558.2	1 977.9	2 189.4	1 932.0	24 657.5	60 316.5	35 659.0
24. TransCanada PipeLines Limited GL-43	1 335.9	—	—	—	1 335.9	9 631.5	8 295.6
25. Consolidated Natural Gas Limited GL-44	3 548.9	420.7	370.2	277.9	4 617.7	18 951.3	14 333.6
26. Canadian-Montana Pipe Line Company GL-52	—	189.3	83.8	—	273.1	1 841.4	1 568.3
27. Columbia Gas Development of Canada Ltd. GL-54	—	—	—	—	—	2 394.0	2 394.0
28. Niagara Gas Transmission Limited GL-55	—	31.9	71.4	89.1	192.4	717.5	525.1
29. ProGas Limited GL-56	—	—	668.0	1 465.6	2 133.6	17 050.0	14 916.4
30. Sulpetro Limited GL-57	—	238.1	581.2	525.5	1 344.8	1 838.4	493.6
31. Pan-Alberta Gas Ltd. GL-58	—	—	—	1 427.8	1 427.8	37 324.8	35 897.0
32. Pan-Alberta Gas Ltd. GL-59	—	—	280.0	1 647.1	1 927.1	13 685.7	11 758.6
33. TransCanada PipeLines Limited GL-60	—	800.0	1 574.0	1 334.7	3 708.7	10 896.4	7 187.7
34. Consolidated Natural Gas Limited GL-61	—	103.8	707.1	1 265.4	2 076.3	11 373.6	9 297.3

G-V (cont'd)
EXPORTS OF NATURAL GAS

Exporter and Licence/Order[a]	10^6 m^3						
	Cumulative[b] to 79-12-31	1980	1981	1982	Cumulative[b] to 82-12-31	Total Authorized Exports	Remaining[c] Under Licences
35. Pan-Alberta Gas Ltd. GL-63	—	—	—	—	—	6 220.8	6 220.8
36. Union Gas Limited GL-64	—	6.7	296.1	284.4	587.2	1 420.0	1 832.8
37. Western Decalta Petroleum (1977) Limited MO-49-75	—	—	—	—	—	N/S	—
38. Canadian-Montana Pipe Line Company GO-3-79	—	—	—	5.5	5.5	105.0	99.5
39. Gaz Métropolitain, Inc. GO-4-80	—	— —	—	—	—	13.3	11.6
40. Gas Métropolitain, Inc. GO-2-81	—	— —	—	—	—	0.1	—
Gross Exports[d]	421 896.9	30 554.3	30 278.8	29 835.8	512 566.3		
Deduct Re-Exports of Imports:							
Item 25, GL-44	3 548.9	420.7	370.2	277.9	4 617.7		
Deduct Exports for Re-Imports:							
Item 11, GL-21	66 426.6	5 314.5	5 882.8	5 191.1	82 815.0		
Item 16, GL-30	2 657.0	278.2	252.2	233.8	3 421.3		
Item 23, GL-42	18 558.2	1 977.9	2 189.4	1 932.0	24 657.5		
Net Exports	330 706.2	22 562.9	21 583.9	22 200.6	397 054.8		

(a) For information on the term, point of export, and maximum authorized volumes under each licence and order, please see Appendix G-IV.
(b) Cumulative totals only includes those export licences and orders listed on the table.
(c) It may not be possible to export volumes remaining under these licences due to restrictions on peak day and annual volumes.
(d) The Gross Exports shown are the total for subsisting licences and orders. For volumes exported under expired licences and orders, please see previous *Annual Reports* of the National Energy Board.
Figures may not total due to rounding.
— — Amount too small to be expressed.
N/S Not stated
N/A Not applicable.

G-VI

NEW LICENCES AND ORDERS TO IMPORT NATURAL GAS IN 1982

No new licences or orders to import natural gas were issued in 1982.

G-VII

CURRENT LICENCES AND ORDERS TO IMPORT NATURAL GAS, PROPANE, BUTANES, ETHANE AND ETHYLENE AS AT 31 DECEMBER 1982

IMPORTER	LICENCE OR ORDER NUMBER	POINT OF IMPORT	TERM OF LICENCE OR ORDER		MAXIMUM IMPORT VOLUME		
			FROM	TO	DAILY 10^3m^3	ANNUAL 10^6m^3	TERM 10^6m^3
Natural Gas							
1. TransCanada PipeLines Limited	GL-21(AO-7)[a]	Sault Ste-Marie and Sarnia, Ont.	68-11-05	91-10-31	N/S	7 019.1	169 967.0
2. ICG Transmission Holdings Limited	GL-30(AO-3)[a]	Rainy River, Ont.	70-11-01	95-10-31	1 321.6	344.0	8 408.1
3. TransCanada PipeLines Limited	GL-42(AO-3)[a]	Sault Ste-Marie and Sarnia, Ont.	71-04-15 71-11-01	71-10-31 94-10-21	N/S N/S	232.8 2 612.3	60 316.5
4. Consolidated Natural Gas Limited	GLI-5(AO-2)	Willow Creek, Sask.	72-03-15	92-10-31	4 249.2	1 274.8	18 951.3
5. Tenneco LNG Inc.	GLI-7	Saint John, N.B.	[b]	[b]	N/S	418.68PJ	8 373.6PJ
6. Border Utilities Limited	GO-2-66(AO-2)	Coutts, Alta.	66-06-02	85-09-14	30.0	N/S	N/S
7. Canadian Western Natural Gas Company Limited	GO-6-66(AO-3)	Coutts, Alta.	66-09-22	85-09-14	30.0	N/S	N/S

G-VII (Cont'd)

CURRENT LICENCES AND ORDERS TO IMPORT NATURAL GAS, PROPANE, BUTANES, ETHANE AND ETHYLENE AS AT 31 DECEMBER 1982

IMPORTER	LICENCE OR ORDER NUMBER	POINT OF IMPORT	TERM OF LICENCE OR ORDER		MAXIMUM IMPORT VOLUME (m^3)
			FROM	TO	
Propene					
1. Dome Petroleum Limited	GL-46(AO-5)[g]	Sarnia, Ont.	78-04-01	79-03-31	619 047
		Windsor, Ont.	79-04-01	80-03-31	601 587
			80-04-01	81-03-31	547 619
			81-04-01	82-03-31	488 254
			82-04-01	83-03-31	535 000
			83-04-01	84-03-31	535 000
Butanes					
1. Dome Petroleum Limited	EBU-1-74(AO-3)[h]	Sarnia, Ont.	78-04-01	79-03-31	792 461
		Windsor, Ont.	79-04-01	80-03-31	773 405
			80-04-01	81-03-31	689 235
			81-04-01	82-03-31	587 597
			82-04-01	83-03-31	526 837
			83-04-01	84-03-31	433 551
2. Dome Petroleum Limited	EBU-132-74(AO-1)[g]	Sarnia, Ont.	79-01-01	79-12-31	603 129
			80-01-01	80-12-31	580 324
			81-01-01	81-12-31	556 375
			82-01-01	82-12-31	532 601
			83-01-01	83-12-31	502 284
			84-01-01	84-12-31	452 037
			85-01-01	85-12-31	437 093
			86-01-01	86-12-31	402 186
			87-01-01	87-12-31	352 812
			88-01-01	88-12-31	341 711
			89-01-01	89-12-31	315 460
			90-01-01	90-12-31	299 627
			91-01-01	91-12-31	290 273
			92-01-01	92-12-31	272 057
			93-01-01	93-12-31	265 117
			94-01-01	94-12-31	245 012
			95-01-01	95-12-31	239 724

G-VII (Cont'd)

CURRENT LICENCES AND ORDERS TO IMPORT NATURAL GAS, PROPANE, BUTANES, ETHANE AND ETHYLENE AS AT 31 DECEMBER 1982

IMPORTER	LICENCE OR ORDER NUMBER	POINT OF IMPORT	TERM OF LICENCE OR ORDER		MAXIMUM IMPORT VOLUME (m^3)
			FROM	TO	
Butanes					
3. Amoco Canada Petroleum Company Limited	EBU-133-74(AO-1)[W]	Sarnia, Ont.	79-01-01	79-12-31	618 088
			80-01-01	80-12-31	575 893
			81-01-01	81-12-31	540 176
			82-01-01	82-12-31	486 674
			83-01-01	83-12-31	423 848
			84-01-01	84-12-31	374 315
			85-01-01	85-12-31	359 244
			86-01-01	86-12-31	308 345
			87-01-01	87-12-31	260 131
			88-01-01	88-12-31	239 549
			89-01-01	89-12-31	205 008
			90-01-01	90-12-31	179 455
			91-01-01	91-12-31	163 527
			92-01-01	92-12-31	135 973
			93-01-01	93-12-31	122 506
			94-01-01	94-12-31	95 286
			95-01-01	95-12-31	91 062
4. PanCanadian Gas Products Ltd.	EBU-134-74(AO-1)[W]	Sarnia, Ont.	79-01-01	79-12-31	213 822
			80-01-01	80-12-31	213 822
			81-01-01	81-12-31	213 822
			82-01-01	82-12-31	213 822
			83-01-01	83-12-31	213 822
			84-01-01	84-12-31	240 550
			85-01-01	85-12-31	240 550
			86-01-01	86-12-31	240 550
			87-01-01	87-12-31	240 550
			88-01-01	88-12-31	240 550
			89-01-01	89-12-31	240 550
			90-01-01	90-12-31	240 550

G-VII (Cont'd)

CURRENT LICENCES AND ORDERS TO IMPORT NATURAL GAS, PROPANE, BUTANES, ETHANE AND ETHYLENE AS AT 31 DECEMBER 1982

IMPORTER	LICENCE OR ORDER NUMBER	POINT OF IMPORT	TERM OF LICENCE OR ORDER		MAXIMUM IMPORT VOLUME (m^3)
			FROM	TO	
Ethane					
1. Dome Petroleum Limited	GL-45(AO-8)[a]	Sarnia, Ont. and Windsor, Ont.	78-04-01	79-03-31	530 325
			79-04-01	80-03-31	537 245
			80-04-01	81-03-31	547 703
			81-04-01	82-03-31	565 080
			82-04-01	83-03-31	571 399
			83-04-01	84-03-31	549 883
2. Dome Petroleum Limited	GO-1-76(AO-1)[d]	Windsor, Ont.	78-01-01	85-12-31	3 949 m^3/a
Ethylene					
1. Dow Chemical of Canada Limited	EYL-2-76(AO-1)[g]	Windsor, Ont.	78-01-01	97-12-31	68 038 860 kg/a

[a] This licence authorizes an export near Emerson, Manitoba for re-import near Sault Ste. Marie and Sarnia, Ontario, to serve the Eastern Canadian market.
[b] This licence authorizes an export near Sprague, Manitoba for re-import near Rainy River, Ontario.
[c] From the date of Initial Delivery.
[d] Twenty years and six months after the date of First Regular Delivery and not exceeding 25 years.
[e] This is an import-export licence whereby propane imported at Sarnia or Windsor may be exported at any place on the international boundary between Canada and the United States in the Province of Ontario.
[f] This order authorizes an import at Sarnia or Windsor, Ontario for subsequent export at any point on the international boundary between Canada and the United States.
[g] This order authorizes an export at Gretna, Manitoba for subsequent import at Sarnia, Ontario.
[h] This licence authorizes an export at any point on the international boundary between Canada and the United States. The quantity of ethane exported under the authority of this licence shall be equal to the quantities of ethane which the licensee imports near Sarnia and Windsor, Ontario.
[i] This order authorizes an export of ethane at Elmore, Saskatchewan for subsequent import at Windsor, Ontario.
[j] This order authorizes an export of ethylene at Elmore, Saskatchewan for subsequent import at Windsor, Ontario.

N/S Not specified
N/A Not applicable

G-VIII
IMPORTS OF NATURAL GAS

Importer and Licence/Order[a]	10^6 m^3						
	Cumulative[b] to 79-12-31	1980	1981	1982	Cumulative[b] to 82-12-31	Total Authorized Imports	Remaining[c] Under Licences
1. Border Utilities Ltd. GO-2-68	13.0	0.8	0.8	1.0	15.6	N/S	—
2. Canadian Western Natural Gas Company Ltd. GO-6-68	19.9	2.4	2.2	3.6	28.1	N/S	—
3. Consolidated Natural Gas Limited GLI-5	3 606.9	423.2	376.2	282.9	4 689.2	18 961.3	14 262.1
4. TransCanada PipeLines Limited GL-21	66 421.1	5 288.5	5 851.8	5 174.3	82 735.7	169 967.0	87 231.3
5. ICG Transmission Holdings Limited GL-30	2 657.0	278.2	252.2	233.8	3 421.3	8 498.1	5 076.8
6. TransCanada PipeLines Limited GL-42	18 556.2	1 968.3	2 177.9	1 925.8	24 628.2	60 316.5	35 688.3
7. Gaz Metropolitain, inc GO-3-80	—	0.7	0.9	—	1.6	13.3(f)	
Gross Imports[d]	91 274.1	7 962.1	8 662.0	7 621.4	115 519.7		
Deduct Imports for Re-Exports							
Item 3. GLI-5	3 606.9	423.2	376.2	282.9	4 689.2		
Item 7. GO-3-80	—	0.7	0.9	—	1.6		
Deduct Re-Imports[d] of Exports							
Item 4. GL-21	66 421.1	5 288.5	5 851.8	5 174.3	82 735.7		
Item 5. GL-30	2 657.0	278.2	252.2	233.8	3 421.3		
Item 6. GL-42	18 556.2	1 968.3	2 177.9	1 925.8	24 628.2		
Net Imports	32.9	3.2	3.0	4.6	43.7		

(a) For information on the term, point of import and maximum authorized volumes under each licence and order, please see Appendix G-VII.
(b) Cumulative totals only includes those import licences and orders listed on the table.
(c) It may not be possible to import total volumes remaining under licences due to restrictions on peak day and annual volumes.
(d) The Gross Imports shown are the total for subsisting licences and orders. For volumes imported under expired licences and orders, please see previous *Annual Reports* of the National Energy Board.

Figures may not total due to rounding.
N/S Not specified
N/A Not applicable
— — Amount too small to be expressed.

G-IX

EXPORTS OF PROPANE, BUTANES, ETHANE AND ETHYLENE UNDER LONG TERM LICENCES AND ORDERS*—1982

(VOLUME IN CUBIC METRES)

EXPORTER	LICENCE OR ORDER NUMBER	1980 ACTUAL	1981 ACTUAL	1982 (PRELIMINARY)
A. PROPANE				
1. Dome Petroleum Limited	GL-31	661 124	656 190	620 476
2. Amoco Canada Petroleum Company Limited	GL-32	92 698	92 698	92 698
3. PanCanadian Gas Products Limited	GL-34	—	—	—
4. Dome Petroleum Limited	GL-46	362 438	438 516	333 100
5. Dome Petroleum Limited	EPR-908-77	—	—	—
6. Imperial Oil Limited	EPR-913-78	273 476	—	—
7. Dome Petroleum Limited	EPR-917-79	664 809	729 595	747 873
8. Amoco Canada Petroleum Company Limited	EPR-918-79	581 170	862 853	558 248

G-IX (cont'd)

EXPORTS OF PROPANE, BUTANES, ETHANE AND ETHYLENE UNDER LONG TERM LICENCES AND ORDERS*—1982

(VOLUME IN CUBIC METRES)

EXPORTER	LICENCE OR ORDER NUMBER	1980 ACTUAL	1981 ACTUAL	1982 (PRELIMINARY)
9. PanCanadian Gas Products Limited	EPR-919-79	251 479	273 793	309 168
10. Dome Petroleum Limited	EPR-921-80	25 838	—	—
11. Imperial Oil Limited	EPR-922-80	140 826	397 007	397 634
12. Amoco Canada Petroleum Compar y Limited	EPR-924-81	N/A	—	—
13. Amoco Canada Petroleum Company Limited	EPR-925-81	N/A	—	—
14. NGL Supply Limited	EPR-926-81	N/A	212	429
15. Dome Petroleum Limited	EPR-927-82	N/A	N/A	—
B. BUTANES				
1. Dome Petroleum Limited	EBU-1-74	303 754	398 331	332 906
2. Dome Petroleum Limited	EBU-132-74	354 420	363 484	433 150
3. Amoco Canada Petroleum Company Limited	EBU-133-74	342 968	314 005	324 542
4. PanCanadian Gas Products Limited	EBU-134-74	110 636	123 351	139 317
5. Imperial Oil Limited	EBU-906-78	154 113	—	—
6. Dome Petroleum Limited	EBU-910-80	16 295	—	—
7. Imperial Oil Limited	EBU-911-80	75 543	234 763	227 822
8. Dome Petroleum Limited	EBU-913-81	N/A	—	—
9. Amoco Canada Petroleum Company Limited	EBU-914-81	N/A	—	—
10. Amoco Canada Petroleum Company Limited	EBU-915-81	N/A	—	—
11. Texaco Canada Inc.	EBU-916-82	N/A	N/A	24 184
12. Dome Petroleum Limited	EBU-927-82	N/A	N/A	2 090

G-IX (cont'd)

EXPORTS OF PROPANE, BUTANES, ETHANE AND ETHYLENE UNDER LONG TERM LICENCES AND ORDERS*—1982

(VOLUME IN CUBIC METRES)

EXPORTER	LICENCE OR ORDER NUMBER	1980 ACTUAL	1981 ACTUAL	1982 (PRELIMINARY)
C. ETHANE				
1. Dome Petroleum Limited	GL-45	364 970	489 840	374 397
2. Dome Petroleum Limited	GL-47	1 738 889	1 831 819	1 873 189
3. Dome Petroleum Limited	GO-1-76	—	—	—
4. Dome Petroleum Limited	GL-51	1 090 000	934 951	1 092 479
D. ETHYLENE				
1. Dow Chemical of Canada Limited	EYL-1-76	46 935 319	74 945 478	—
2. Dow Chemical of Canada Limited	EYL-2-76	68 000 000	68 000 000	65 951 333
3. Dow Chemical of Canada Limited	EYL-2-80	—	2 445 715	—
4. Imperial Oil Limited	EYL-2-79	3 386 970	1 245 700	—
5. Dow Chemical of Canada Limited	EYL-1-80	3 770 316	—	—
6. Dow Chemical of Canada Inc.	EYL-1-81	N/A	—	—
7. Esso Chemical Canada	EYL-1-82	N/A	N/A	—
8. Petrosar Limited	EYL-2-82	N/A	N/A	—

* See Appendix G-IV for particulars.
N/A Not Applicable

G-X

IMPORTS OF PROPANE, BUTANES, ETHANE AND ETHYLENE UNDER LONG TERM LICENCES AND ORDERS*—1982

(VOLUME IN CUBIC METRES)

INPORTER	LICENCE OR ORDER NUMBER	1980 ACTUAL	1981 ACTUAL	1982 (PRELIMINARY)
A. PROPANE				
1. Dome Petroleum Limited	GL-46	424 853	438 516	431 996
2. Dome Petroleum Limited	EPR-906-77	—	—	—
3. Imperial Oil Limited	EPR-913-78	273 476	—	—
4. Dome Petroleum Limited	EPR-917-79	610 586	718 179	751 585
5. Amoco Canada Petroleum Company Limited	EPR-918-79	514 293	573 386	558 901
6. PanCanadian Gas Products Limited	EPR-919-79	251 479	273 793	309 168
7. Dome Petroleum Limited	EPR-921-80	24 902	—	—
8. Imperial Oil Limited	EPR-922-80	121 042	380 116	376 999
9. Amoco Canada Petroleum Company Limited	EPR-924-81	N/A	—	—
10. Amoco Canada Petroleum Company Limited	EPR-925-81	N/A	—	—
11. NGL Supply Limited	EPR-926-81	N/A	641	—
12. Dome Petroleum Limited	EPR-927-82	N/A	N/A	—

G-X (cont'd)

IMPORTS OF PROPANE, BUTANES, ETHANE AND ETHYLENE UNDER LONG TERM LICENCES AND ORDERS*—1982

(VOLUME IN CUBIC METRES)

IMPORTER	LICENCE OR ORDER NUMBER	1980 ACTUAL	1981 ACTUAL	1982 (PRELIMINARY)
B. BUTANES				
1. Dome Petroleum Limited	EBU-1-74	345 724	314 441	311 167
2. Dome Petroleum Limited	EBU-132-74	362 138	345 893	433 594
3. Amoco Canada Petroleum Company Limited	EBU-133-74	303 622	322 455	330 607
4. PanCanadian Gas Products Limited	EBU-134-74	110 636	123 351	139 317
5. Imperial Oil Limited	EBU-906-78	154 113	—	—
6. Dome Petroleum Limited	EBU-910-80	15 659	—	—
7. Imperial Oil Limited	EBU-911-80	43 430	225 405	218 997
8. Dome Petroleum Limited	EBU-913-81	N/A	—	—
9. Amoco Canada Petroleum Company Limited	EBU-914-81	N/A	—	—
10. Amoco Canada Petroleum Company Limited	EBU-915-81	N/A	—	—
11. Texaco Canada Inc.	EBU-916-82	N/A	N/A	19 402
12. Dome Petroleum Limited	EBU-927-82	N/A	N/A	2 090

* See Appendix G-VII for particulars.

INPORTER	LICENCE OR ORDER NUMBER	1980 ACTUAL	1981 ACTUAL	1982 (PRELIMINARY)
C. ETHANE				
1. Dome Petroleum Limited	GL-45	390 480	493 859	503 777
2. Dome Petroleum Limited	GO-1-76	—	—	—
D. ETHYLENE				
1. Dow Chemical of Canada Limited	EYL-1-76	46 935 319	74 945 478	—
2. Dow Chemical of Canada Limited	EYL-2-76	68 000 000	68 000 000	65 951 333

* See Appendix G-VII for particulars.
N/A Not Applicable.

G-XI

NET EXPORTS OF PROPANE AND BUTANES

A) PROPANE (Volume in cubic metres)

EXPORTER	1980 ACTUAL	1981 ACTUAL	1982 (PRELIMINARY)
Atlantic Speedy Propane Ltd.[g]	13	77	79
Amoco Canada Petroleum Co. Ltd.	431 601	399 744	496 964
Big Horn Supply Ltd.			
B.P. Canada Inc.[f]	33 284	29 136	15 608
Burnwell Gas of Canada Ltd.	—	1 532	283
Canadian Enterprise Gas Products Ltd.	34 960	35 442	24 941
Canadian Superior Oil Ltd.	75 006	51 852	62 912
Can-Am Liquids Corp. Ltd.[g]	100 109	53 062	68 468
Chevron Standard Ltd.	1 186	10 282	13 728
Cigas Products Ltd.	248 699	219 330	231 837
Dynex Petroleum Ltd.[b]	959	—	—
Dillingham Corporation Canada Ltd.[c]	14 649	17 350	15 218
Dome Petroleum Limited	56 525	18 974	9 458
Elgin Petroleum Limited	817 063	695 511	822 584
Esso Resources Canada Limited	6 232	7 289	14 492
Gasbec Inc.	426 100	392 653	322 735
Gas Supply (Minneapolis) Ltd.	56 789	36 344	43 958
Gulf Canada Products Company	3 138	454	—
Home Oil Company Limited	516 727	448 050	502 170
Hudson's Bay Oil and Gas Company Limited	69 920	58 841	72 122
Husky Oil Operations Limited	60 859	55 861	11 214
ICG Canadian Propane Gas & Oil Ltd.[d]	—	—	2 630
Irving Oil Company	1 197	356	402
Koch Hydrocarbons Canada	11 965	—	—
Mobil Oil Canada Ltd.	5 232	1 227	6 754
N.G.L. Supply Ltd.	117 886	71 101	92 091
Northern Petro Products Ltd.	35 277	14 719	17 293
Northern Raymond Oil Co. Ltd.	1 305	1 802	1 539
PanCanadian Gas Products Ltd.	4 974	—	2 893
Petro-Canada Exploration Inc.	181 065	181 113	259 997
Petrosol International Ltd.	257 640	281 711	348 809
Proflame Limited[e]	7 148	—	16 592
Real International Marketing Ltd.	—	—	319
Shell Canada Resources Limited	1 741	10 576	1 789
Stephens Energy Limited	153 077	142 139	149 198
Stillings Canada Petroleum Company	37 290	67 014	119 688
Suncor Inc.[g]	69 804	92 475	56 300
Texaco Canada Inc.	1 825	—	672
Union Oil Co. of Canada Ltd.	118 244	150 554	127 425
Union Texas of Canada Ltd.	29 567	32 405	27 025
	58 484	57 892	41 233
TOTALS	4 049 538	3 636 868	4 001 420

(a) This company started exporting in July 1980.
(b) This company was formerly Dalco Petroleum Ltd.
(c) Prior to July 1980, exports were listed under the name of Canmore Oil and Gas Limited.
(d) Prior to January 1980, exports were listed under the name of Canadian Propane Gas & Oil Ltd.
(e) This company started exporting in April 1982.
(f) This company started exporting in August 1981.
(g) This company started exporting in November 1980.

G-XI (cont'd)

NET EXPORTS OF PROPANE AND BUTANES

B) BUTANES (Volume in cubic metres)

EXPORTER	1980 ACTUAL	1981 ACTUAL	1982 (PRELIMINARY)
Amoco Canada Petroleum Co. Ltd.	323 693	399 348	465 180
	3	—	—
Belgo Canada Manufacturing Co. Ltd.			
Big Horn Supply Ltd.	18 687	16 951	4 635
Canada Cities Service, Ltd.	—	—	—
Canadian Enterprise Gas Products Ltd.	34 634	36 348	55 735
Canadian Superior Oil Ltd.	32 088	85 777	58 109
Can-Am Liquids Corp. Ltd.[a]	7 655	6 218	5 206
Chevron Standard Ltd.	6 136	5 640	27 476
Dynex Petroleum Ltd.[b]	25 271	18 380	17 933
Dome Petroleum Limited	372 093	457 444	629 273
Elgin Petroleum Limited	20 262	8 488	5 996
Esso Resources Canada Limited	94 738	130 732	150 644
Gas Supply (Minn.) Ltd.	—	117	22 110
Gray Oil Corporation[c]	—	—	2 421
Home Oil Company Limited	65 952	107 763	113 724
Hudson's Bay Oil and Gas Company Limited	249 024	237 782	56 932
Husky Oil Operations Ltd.	5 603	6 125	11 978
Koch Hydrocarbons Canada	209 204	183 599	180 929
Mobil Oil Canada Ltd.	90 780	33 321	64 688
Murphy Oil Company Ltd.	12 048	8 507	—
N.G.L. Supply Ltd.	46 165	50 167	42 422
Northern Petro Products Ltd.	5 475	15 449	963
Northern Raymond Oil Co. Ltd.	2 180	493	733
PanCanadian Gas Products Ltd.	47 715	68 124	135 503
Petro-Canada Exploration Inc.	81 157	92 386	120 232
Petrosol International Ltd.	43 398	17 695	45 086
Real International Marketing Ltd.[e]	2 126	9 236	1 774
Rivecal Energy Limited[d]	—	—	122
G.W. Sample Enterprises	714	—	—
Shell Canada Resources Limited	145 274	168 437	146 481
Stephens Energy Limited	51 245	107 523	119 547
Stillings Canada Petroleum Company	160 945	140 784	115 557
Texaco Canada Inc.	113 517	129 017	185 724
Union Oil Co. of Canada Ltd.	25 887	1 889	5 575
TOTALS	2 293 669	2 543 740	2 792 688

(a) This company started exporting in July 1980.
(b) This company was formerly Dalco Petroleum Ltd.
(c) This company started exporting in June, 1982.
(d) This company started exporting in November 1982.
(e) This company started exporting in June 1981.

O-I

CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY FOR OIL PIPELINES ISSUED DURING 1982

No Certificates issued during 1982.

O-II

ORDERS RELATING TO NEW OIL PIPELINE FACILITIES ISSUED DURING 1982 CLASS "B" CONSTRUCTION

APPLICANT	FACILITIES	ESTIMATED COST	ISSUED	ORDER NO.
Manito Pipelines Ltd.	Cone roof storage tank at Kerrobert, Saskatchewan	$890,000	30 Apr. 1982	XO-1-82
Manito Pipelines Ltd.	Pumping facilities at Unity and Grill Lake Stations, Saskatchewan	$380,000	15 Oct. 1982	XO-3-82
Trans Mountain Pipe Line Company	Upgrading of pumping stations in Alberta and British Columbia	$8,020,000	22 Sept. 1982	XO-2-82

O-II (cont'd)

ORDERS RELATING TO NEW OIL PIPELINE FACILITIES ISSUED DURING 1982
CLASS "C" CONSTRUCTION

APPLICANT	FACILITIES	ESTIMATED COST	ISSUED	ORDER NO.
Cochin Pipe Lines Ltd.	Total	$2,437,257		
	Pump stations, metering, communication system, buildings, etc.	$2,237,390	24 Feb. 1982	XOM-4-82
	Improvements to pipeline and the communication system	$199,867	24 Nov. 1982	XOM-12-82
Dome NGL Pipeline Ltd.	Telemetry system	$287,000	8 July 1982	XOM-7-82
Interprovincial Pipe Line Limited	Total	$30,538,900		
	Improvements to pumping stations and the communication system, upgrading of NGL facilities and mainline modifications	$12,519,900	13 Aug. 1982	XOM-8-82
Manito Pipelines Ltd.	Total	$1,491,885		
	Computer supervisory system, communications system, etc.	$1,369,252	5 May 1982	XOM-5-82
	Truck terminal automation, station fencing, etc.	$122,633	13 Oct. 1982	XOM-9-82
Montreal Pipe Line Limited	Total	$302,900		
	Data acquisition equipment, laboratory facilities, etc.	$270,800	10 Feb. 1982	XOM-2-82
	Cathodic protection rectifier, maintenance and operating tools and equipment	$32,100		
Petroleum Transmission Company	Upgrade of control system	$1,048,665	10 Feb. 1982	XOM-3-82
Trans Mountain Pipe Line Company	Total	$5,322,187		
	Work equipment, furniture and fixtures, tanks, station equipment, etc.	$1,413,040	10 Mar. 1982	XOM-1-82
	Automotive equipment	$598,950	1 Dec. 1982	XOM-11-82
	Tanks, automotive equipment, work equipment, etc.	$3,310,197	1 Dec. 1982	XOM-13-82
Trans-Northern Pipelines Inc.	Total	$742,000		
	Computer equipment, densitometers vehicles, etc.	$329,000	27 Oct. 1982	XOM-10-82
	Modifications to pump, meter and junction locations	$413,000	1 Dec. 1982	XOM-14-82
Westspur Pipe Line Company	Pipeline replacements	$445,920	4 June 1982	XOM-6-82

O-III

EXPORTS OF CANADIAN CRUDE OIL AND EQUIVALENT TO THE UNITED STATES 1982 AND 1981

Company	Destination	1982		1981	
		Total Cubic Metres for Year	Daily Average	Total Cubic Metres for Year	Daily Average
Districts I-IV					
Amoco Production Company	Whiting, Indiana	214 363.4	587.3	—	—
Ashland Oil Inc.	Canton, Ohio	—	—	4 224.1	11.5
Ashland Oil Inc.	N. Tonawanda, N.Y.	—	—	31 132.3	85.2
Cdn. Hydrocarbons Ltd.	St. Paul, Minnesota	138 718.7	380.1	95 391.6	261.3
Conoco Inc.	Cut Bank, Montana	1 237.0	3.4	1 812.9	4.9
Consumers Power Company	Billings, Montana	82 738.6	226.7	—	—
Farmers Union Central Exchange	Bay City, Michigan	1 729.5	4.7	4 256.1	11.6
Koch Refining Co.	Billings, Montana	169 807.2	465.2	—	—
Laketon Asphalt Refining Inc.	Pine Bend, Minnesota	6 773 273.5	18 556.9	4 744 250.1	12 997.9
Marathon Oil Co.	Laketon, Indiana	151 412.9	414.8	—	—
Mobil Oil Corp.	Detroit, Michigan	28 839.0	79.0	—	—
Murphy Oil Corp.	Joliet, Illinois	1 084 495.0	2 971.2	559 340.9	1 532.4
Union Oil Co. of California	Superior, Wisconsin	290 698.2	796.4	282 690.0	774.4
Other	Lemont, Illinois	67 062.9	183.7	42 467.2	116.3
Total Districts I-IV		54 292.9	148.7	4 224.1	11.5
		9 058 668.8	24 818.1	5 766 110.4	15 797.5

O-IV

EXPORT CHARGES IN 1982 FOR CRUDE OIL AND REFINED PETROLEUM PRODUCTS

($ PER CUBIC METRE)

TYPE	JAN.(1)	FEB.	MAR.	APR.	MAY	JUNE	JULY(2)	AUG.	SEP.	OCT.	NOV.	DEC.
Light, Medium and Condensate	149.30	135.15	135.15	103.65	103.65	103.65	109.95	109.95	97.20	97.20	97.20	97.20
Cold Lake	—	—	—	—	—	—	—	—	—	24.60	24.60	24.60
Del Bonita	139.35	125.25	125.25	93.75	93.75	93.75	100.05	100.05	—	—	—	—
Reagan	151.45	137.10	137.10	105.60	105.60	105.60	111.90	111.90	98.95	97.75	97.75	97.75
Lloydminster-type Blends	91.40	73.30	58.00	45.40	45.40	45.40	58.00	58.00	44.40	44.40	44.40	44.40
Wainwright/Kinsella Blend	90.40	71.65	56.35	43.75	43.75	43.75	56.35	56.35	43.15	43.15	43.15	43.15
Fosterton	96.15	77.75	62.45	49.85	49.85	49.85	62.45	62.45	51.10	51.10	51.10	51.10
Smiley-Coleville	90.30	71.65	56.35	43.75	43.75	43.75	56.35	56.35	44.35	45.75	45.75	45.75
Bow River	102.75	83.85	68.55	55.95	55.95	55.95	68.55	68.55	56.60	55.15	55.15	55.15
Midale	101.30	82.15	66.85	54.25	54.25	54.25	66.85	66.85	54.25	54.25	54.25	54.25
Motor Gasoline & Jet B	96.90	92.20	82.75	106.70	101.45	101.45	110.90	109.50	90.60	90.60	79.85	79.85
Middle Distillates	104.15	113.60	107.30	128.05	109.20	109.20	121.80	109.50	109.50	96.90	90.60	90.60
Heavy Fuel Oil ex B.C.	34.30	20.15	70.35	101.45	101.45	101.45	106.65	109.50	84.90	82.50	79.85	73.95
ex other	34.30	20.15	20.15	59.80	56.65	56.65	59.80	44.05	44.05	44.05	44.05	50.35
Partially Processed Oils	78.35	62.95	70.35	101.45	101.45	101.45	106.65	95.35	84.90	82.50	79.85	73.95

1) Reduction of $14.15 per cubic metre applicable in respect of volumes of crude oil and equivalent exported in January which entered exporting pipeline systems after 1 January 1982.

2) Reduction of $14.15 per cubic metre applicable in respect of volumes of crude oil and equivalent exported in July which entered exporting pipeline systems after 1 July 1982.

O-V

EXCHANGES OF CRUDE OIL AND EQUIVALENT WITH THE UNITED STATES VIA MID-CONTINENT PIPELINE SYSTEMS—1982

LICENCE HOLDER	EXCHANGE PARTNER	QUANTITY IN CUBIC METRES		
		LICENSED	EXPORTED	IMPORTED
BP Oil Ltd.	Conoco Inc.	—	—	2 175.6
BP Oil Ltd.	Murphy Oil Corporation	497 977.0	167 073.3	169 762.6
BP Oil Ltd.	Phillips Petroleum Corporation	—	5 065.4	—
Gulf Canada Products Co.	Conoco Inc.	—	—	6 904.6
Imperial Oil Ltd.	Exxon Corporation	195 580.0	187 654.8	207 872.9
Imperial Oil Ltd.	Gladieux Refinery Inc.	10 700.0	2 013.9	2 150.0
Shell Canada Ltd.	Conoco Inc.	1 089 023.0	1 223 712.0	1 127 548.2
Shell Canada Ltd.	Farmers Union Central Exchange	808 647.2	714 169.4	741 902.6
Shell Canada Ltd.	Shell Oil Co.	1 083 770.1	1 027 318.4	1 031 118.1
Shell Canada Ltd.	Simons Crude Oil Co.	44 023.7	24 740.9	24 742.4
Sunoco Inc.	Ashland Oil Inc.	213 855.0	47 843.7	36 916.2
Texaco Canada Inc.	Exxon Corporation	—	12 704.8	296.0
TOTAL		3 943 576.0	3 412 296.6	3 351 409.2

O-VI

EASTERN CANADIAN EXCHANGE SHIPMENTS — 1982

LICENCE HOLDER	EXCHANGE PARTNER	QUANTITY IN CUBIC METRES		
		LICENSED	EXPORTED	IMPORTED
Ultramar Canada Inc.	Conoco Inc.	156 767.0	155 022.1	154 968.7
Ultramar Canada Inc.	Texaco Inc.	96 990.0	96 959.6	96 574.0
TOTAL		253 757.0	251 981.7	251 542.7

O-VII

EXPORTS OF LICENSED PETROLEUM PRODUCTS AND IMPORTS OF HEAVY FUEL OIL—1982 (CUBIC METRES)

	EXPORTS						IMPORTS
MONTH	PARTIALLY PROCESSED OIL	MOTOR GASOLINE AND JET B	HEAVY FUEL OIL	MIDDLE DISTILLATE	ASPHALT*	TOTAL	HEAVY FUEL OIL
January	11 673.8	47 018.3	113 251.2	120 366.4	—	292 309.7	—
February	194.1	18 668.7	192 204.7	93 537.7	—	304 605.2	—
March	10 912.1	2 665.2	149 315.4	30 576.3	—	193 469.0	—
April	651.9	3 287.8	64 600.9	19 911.0	—	88 451.6	—
May	271.0	71 625.4	173 971.8	102 030.1	—	347 898.3	—
June	171.7	152 010.5	222 257.8	82 666.0	32 218.6	489 324.6	76 828.8
July	10 010.4	135 720.3	156 080.8	24 235.8	59 157.5	385 204.8	102 423.3
August	19 988.7	97 791.4	148 810.3	104 450.9	63 104.7	434 146.0	139 234.0
September	9 563.5	23 742.6	157 809.6	49 915.2	58 840.8	299 871.7	115 813.4
October	29 394.7	44 747.5	176 886.5	109 355.9	28 238.0	388 622.6	58 691.2
November	19 991.2	4 916.1	137 629.6	139 464.6	13 051.9	315 053.4	80 311.0
December	20 055.9	7 234.9	168 234.9	159 321.3	768.7	355 615.7	115 000.00
TOTAL	132 879.0	609 428.7	1 861 053.5	1 035 831.2	255 380.2	3 894 572.6	688 301.7

* The Board began licensing exports of asphalt and imports of heavy fuel oil in June 1982.

O-VIII

EXPORTS OF LICENSED AVIATION AND MARINE FUELS USED IN INTERNATIONAL TRANSPORTATION (CUBIC METRES)

MONTH	JET A(1)	JET B(1)	HEAVY FUEL OIL	MARINE DIESEL / GASOIL	TOTAL
January	85 536	5 838	66 178	15 985	175 537
February	70 231	9 720	89 554	19 377	188 882
March	23 545	3 147	72 477	15 802	114 971
April	34 588	2 090	115 314	99 495	251 487
May	34 028	2 995	211 750	40 905	289 678
June	35 757	5 097	171 446	48 806	261 106
July	51 635	7 646	208 446	50 935	318 662
August	41 246	10 002	139 326	42 277	232 851
September	44 449	22 160	130 898	43 773	241 280
October	39 074	9 580	146 494	41 686	237 634
November	24 835	14 013	172 690	41 320	252 858
December	32 620	5 060	136 134	35 310	209 124
TOTAL	518 344	97 348	1 662 707	495 671	2 774 070

(1) March volumes onward exclude fuel consumed by Canadian airlines.

E-I

CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY FOR INTERNATIONAL POWER LINES PURSUANT TO SECTION 44 ISSUED DURING 1982

No certificates were issued in 1982

E-II

ORDERS RELATING TO INTERNATIONAL POWER LINES ISSUED DURING 1982

TYPE OF ORDER	APPLICANT	FACILITIES	ISSUED	ORDER NO.
Orders Under the International Power Line Regulations	1. The New Brunswick Electric Power Commission	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-2	9 July 1982	AO-1-EC-2
	2. The New Brunswick Electric Power Commission	Order aprroving a change in the description of the existing international power line authorized by Certificate No. EC-III-7	9 July 1982	AO-1-EC-III-7
	3. The New Brunswick Electric Power Commission	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-III-18	9 July 1982	AO-1-EC-III-18
	4. The New Brunswick Electric Power Commission	Order approving a change in the description of the existing international power line authorized by Order No. XE-1-63	9 July 1982	AO-1-XE-1-63
	5. Hydro-Quebec	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-46	9 July 1982	AO-1-EC-46
	6. Hydro-Quebec	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-47	9 July 1982	AO-1-EC-47
	7. Hydro-Quebec	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-50	9 July 1982	AO-1-EC-50
	8. Hydro Quebec	Order approving a change in the description of the existing international power line authorized by Order No. XE-3-64	9 July 1982	AO-1-XE-3-64
	9. Ontario Hydro	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-12	9 July 1982	AO-2-EC-12
	10. Ontario Hydro	Order correcting a typographical error in the description of the existing international power line authorized by Certificate No. EC-III-13	9 July 1982	AO-1-EC-III-13
	11. Canadian Niagara Power Company Limited	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-22	9 July 1982	AO-2-EC-22
	12. The Canadian Transit Power Company	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-44	9 July 1982	AO-1-EC-44
	13. Roseau Electric Co-operative Inc.	Order correcting a typographical error in the description of the existing international power line authorized by Order No. XE-1-80	9 July 1982	AO-1-XE-1-80
	14. Saskatchewan Power Corporation	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-III-19	9 July 1982	AO-1-EC-III-19
	15. Southern Utilities Company, Ltd.	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-54	9 July 1982	AO-1-EC-54

E-II

ORDERS RELATING TO INTERNATIONAL POWER LINES ISSUED DURING 1982

TYPE OF ORDER	APPLICANT	FACILITIES	ISSUED	ORDER NO.
	16. West Kootenay Power and Light Company, Ltd.	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-41	9 July 1982	AO-1-EC-41
	17. Cominco Ltd.	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-III-1	9 July 1982	AO-1-EC-III-1
	18. British Columbia Hydro and Power Authority	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-30	9 July 1982	AO-1-EC-30
	19. British Columbia Hydro and Power Authority	Order approving a change in the description of the existing international power line authorized by Certificate No. EC-III-4	9 July 1982	AO-1-EC-III-4
	20. Hydro-Québec	Order approving a change in the description of the existing international power line authorized by Order No. XE-1-64	22 Dec. 1982	AO-1-XE-1-64
	21. Hydro-Québec	Order approving a change in the description of the existing international power line authorized by Order No. XE-2-64	22 Dec. 1982	AO-1-XE-2-64
	22. Hydro-Québec	Order approving a change in the description of the existing international power line authorized by Order No. XE-3-64	22 Dec. 1982	AO-2-XE-3-64
Leaves to Abandon and Revocation Orders to Certificates of Public Convenience Pursuant to Subsections 43(3) and 47(3)	1. Fraser Inc.	Order granting the leave to abandon the operation of the international power line authorized by Certificate No. EC-32	9 July 1982	RO-EC-82
	2. The New Brunswick Electric Power Commission	Order granting the leave to abandon the operation of the international power line authorized by Order No. XE-1-72	9 July 1982	RO-XE-1-72
	3. Litton Business & Industrial Systems of Canada Limited, Butterfield Division	Order granting the leave to abandon the operation of the international power line authorized by Certificate No. EC-43	9 July 1982	RO-EC-43
	4. The Manitoba Hydro-Electric Board	Order granting the leave to abandon the operation of the international power line authorized by Certificate No. EC-26	9 July 1982	RO-EC-26
	5. The Manitoba Hydro-Electric Board	Order granting the leave to abandon the operation of the international power line by Order No. XE-1-61	9 July 1982	RO-XE-1-61

E-II

ORDERS RELATING TO INTERNATIONAL POWER LINES ISSUED DURING 1982

TYPE OF ORDER	APPLICANT	FACILITIES	ISSUED	ORDER NO.
Order to Certificate of Public Convenience and Necessity Pursuant to Subsection 17(3)	1. Ontario Hydro	Order authorizing the assignment and transfer by Boise Cascade Canada Limited of Certificate of Public Convenience and Necessity No. EC-III-11 to Ontario Hydro	14 Oct. 1982	MO-9-82
Exemption Orders pursuant to Section 49	1. Hydro-Quebec	One international power line extending from the distribution transformer TD1V to a point on the international boundary in the Saint-Régis Indian Reserve, in the Province of Québec. This single circuit *hree-phase line operates at 48 kV and 12 kV.	22 Dec. 1982	XE-1-82
	2. Hydro-Quebec	One international power line extending from the distribution transformer TD1C to a point on the international boundary in the Saint-Régis Indian Reserve, in the Province of Québec. This single circuit three-phase line operates at 13.2 kV.	22 Dec. 1982	XE-2-82
	3. Hydro-Quebec	One international power line extending from the distribution transformer TD1S to a point on the international boundary in the Municipality of Stanhope, in the Province of Québec. This single circuit three-phase line operates at 25 kV.	22 Dec. 1982	XE-3-82
	4. Hydro-Quebec	One international power line extending from the distribution transformer TD1H to a point on the international boundary in the Municipality of Hereford, in the Province of Québec. This single circuit three-phase line operates at 25 kV.	22 Dec. 1982	XE-4-82

E-III

LICENCES TO EXPORT ELECTRIC POWER AND ENERGY PURSUANT TO SECTION 82 ISSUED DURING 1982

APPLICANT	CLASS	MEGAWATTS	ANNUAL GIGAWATT-HOURS	TERM		APPLICATION HEARD	ISSUED	LICENCE NO.
				FROM	TO			
1. The New Brunswick Electric Power Commission	Firm	100	876	82-11-01	90-10-31	24 Nov.—2 Dec. 1981	11 Mar. 1982	EL-137
2. The New Brunswick Electric Power Commission	Firm	100	876	82-11-01	95-10-31	24 Nov.—2 Dec. 1981	11 Mar. 1982	EL-138
3. The New Brunswick Electric Power Commission	Firm	15	92	82-11-01	90-10-31	24 Nov.-2 Dec. 1981	11 Mar. 1982	EL-139
4. The New Brunswick Electric Power Commission	Interruptible	—	6 485*	82-11-01	90-10-31	24 Nov.—2 Dec. 1981	11 Mar. 1982	EL-140
5. The New Brunswick Electric Power Commission	Carrier Transfer	140	1 226.4	82-11-01	90-10-31	24 Nov.—2 Dec. 1981	11 Mar. 1982	EL-141
6. The New Brunswick Electric Power Commission	Short Term Firm	20	140	82-11-01	90-10-31	24 Nov.—2 Dec. 1981	11 Mar. 1982	EL-142
7. The New Brunswick Electric Power Commission	Interruptible	—	300	82-11-01	90-10-31	24 Nov.—2 Dec. 1981	11 Mar. 1982	EL-143
8. The New Brunswick Electric Power Commission	Carrier Transfer	50	250	82-11-01	90-10-31	24 Nov.—2 Dec. 1981	11 Mar. 1982	EL-144
9. The New Brunswick Electric Power Commission	Interruptible	—	179	82-11-01	90-10-31	24 Nov.—2 Dec. 1981	11 Mar. 1982	EL-145
10. Cominco Ltd.	Carrier Transfer	—	50	83-01-01	87-12-31	7 Oct. 1982	22 Nov. 1982	EL-146
11. Cominco Ltd.	Interruptible Transfer	—	1 100	83-01-01	87-12-31	7 Oct. 1982	22 Nov. 1982	EL-147
12. Cominco Ltd.	Misc. Firm Equichange	—	250	83-01-01	87-12-31	7 Oct. 1982	22 Nov. 1982	EL-148
13. Cominco Ltd.	Circulating Power	—	1 000	83-01-01	87-12-31	7 Oct. 1982	22 Nov. 1982	EL-149

* Less exports under Licences EL-64, EL-137 and EL-138.

E-IV

ORDERS RELATING TO EXPORT OF ELECTRIC POWER AND ENERGY ISSUED DURING 1982

Orders Issued Pursuant to Section 7 of the Regulations under Part VI of the Act

APPLICANT	CLASS	KILOWATTS	ANNUAL KILOWATT HOURS	TERM		ISSUED	ORDER NO.
				FROM	TO		
1. Hydro-Québec	Firm	20	35 000	82-04-15	85-04-14	19 Mar. 1982	ELO-158
2. Hydro-Québec	Firm	75	200 000	82-04-15	85-04-14	19 Mar. 1982	ELO-159
3. Hydro-Québec	Firm	20	100 000	82-04-15	85-04-14	19 Mar. 1982	ELO-160
4. Hydro-Québec	Firm	35	65 000	82-04-15	85-04-14	19 Mar. 1982	ELO-161
5. Hydro-Québec	Firm	65	150 000	82-04-15	85-04-14	19 Mar. 1982	ELO-162
6. Hydro-Québec	Firm	10	10 000	82-04-15	85-04-14	19 Mar. 1982	ELO-163
7. Hydro-Québec	Firm	2	2 000	82-04-15	85-04-14	19 Mar. 1982	ELO-164
8. Hydro-Québec	Firm	57	150 000	82-04-15	85-04-14	19 Mar. 1982	ELO-165
9. Ontario Hydro	Firm	44	80 000	82-05-15	85-05-14	6 May 1982	ELO-166
10. The Canadian Transit Company	Firm	100	225 000	82-08-01	85-05-31	4 June 1982	ELO-167
11. British Columbia Hydro and Power Authority	Firm	200	600 000	82-12-01	85-11-30	19 June 1982	ELO-168
12. The New Brunswick Electric Power Commission	Firm	200	250 000	82-10-21	85-10-20	3 Aug. 1982	ELO-169
13. The New Brunswick Electric Power Commission	Firm	20	30 000	82-10-21	85-10-20	3 Aug. 1982	ELO-170
14. The New Brunswick Electric Power Commission	Firm	50	20 000	82-10-21	85-10-20	3 Aug. 1982	ELO-171
15. The Manitoba Hydro-Electric Board	Firm	900	7 884 000	82-10-01	85-09-30	17 Aug. 1982	ELO-172
16. The Detroit and Windsor Subway Company	Firm	300	2 000 000	83-01-01	85-11-30	16 Sept. 1982	ELO-173
17. Cedars Rapids Transmission Company Limited	Firm	—	20 000 000	83-01-01	85-12-30	20 Nov. 1982	ELO-174

E-IV (Cont'd)

ORDERS RELATING TO EXPORT OF ELECTRIC POWER AND ENERGY ISSUED DURING 1982

Amending Orders Issued Relative to Power and Energy

APPLICANT	ASSOCIATED LICENCE	ISSUED	ORDER NO.	COMMENTS
1. The New Brunswick Electric Power Commission	EL-65	4 Mar. 1982	A0-2-EL-65	Amendment increasing the quantity of interruptible energy to be exported during 1982 in proportion with a reduction of firm exports under Licence EL-64.
2. Canadian Niagara Power Company, Limited	EL-124	17 June 1982	A0-1-EL-124	Amendment reducing the quantity of firm energy to be exported in proportion with an increase in exports of interruptible energy under Licence EL-125.
3. Canadian Niagara Power Company, Limited	EL-125	17 June 1982	A0-1-EL-125	Amendment increasing the quantity of interruptible energy to be exported in proportion with a reduction of firm exports under Licence EL-124.
4. Hydro-Québec	EL-113	24 June 1982	A0-1-EL-113	Amendment including a new Interconnection Agreement with Niagara Mohawk Power Corporation.
5. Saskatchewan Power Corporation	EL-117	20 Aug. 1982	A0-1-EL-117	Amendment reflecting the intent of the Board at the time it inserted Condition 9, paragraph (a) in the licence.
6. Saskatchewan Power Corporation	EL-118	20 Aug. 1982	A0-1-EL-121	Amendment reflecting the intent of the Board at the time it inserted Condition 11, paragraph (a) in the licence.
7. Saskatchewan Power Corporation	EL-119	20 Aug. 1982	A0-1-EL-119	Amendment reflecting the intent of the Board at the time it inserted Condition 5, paragraph (b) in the licence.
8. The New Brunswick Electric Power Commission	EL-140	7 Oct. 1982	A0-1-EL-140	Amendment defining the period of time during which the maximum authorized quantity could be exported.
9. Dow Chemical of Canada, Limited	EL-121	4 Nov. 1982	A0-1-EL-121	Amendment, which provides for an eighteen-month extension of the licence term to 30 June 1984.

E-V

EXPORTS OF ELECTRIC ENERGY — CALENDAR YEAR 1982

EXPORTER	LICENCE NUMBER	MEGAWATT HOURS					REPORTED DOLLAR VALUE OF EXPORT	
		LICENCE AUTHORIZATION		GROSS ENERGY EXPORTED				
		FIRM	INTER-RUPTIBLE	FIRM	INTER-RUPTIBLE	EXCHANGE[1]	FIRM	INTER-RUPTIBLE
1. Maine and New Brunswick Electrical Power Company, Limited	EL-22	250 000	—	97 178	—	—	863 339	—
	EL-23	—	25 000	—	—	—	—	—
2. Fraser Inc	EL-122	400 000	—	307 610	—	—	10 940 158	—
	EL-123	—	50 000	—	—	—	—	—
3. The New Brunswick Electric Power Commission	AO-1-EL-64	3 504 000[2]	—	594 363	—	-368 741	41 536 241	—
	AO-1-EL-65[3]	—	2 190 000[2]	—	1 012 492	29 446	—	52 397 222
	AO-4-EL-66[4]	876 000	—	—	—	273 353	—	—
	EL-108	140 000	—	—	—	—	—	—
	EL-109	—	300 000	—	103 609	-17 730	—	6 206 902
	EL-110	250 000	—	—	—	33 975	—	—
	EL-111	140 000	—	8 184	—	—	777 248	—
	EL-112	—	179 000	—	1 440	32	—	81 589
	EL-137	876 000	—	—	—	—	—	—
	EL-138	876 000	—	—	—	—	—	—
	EL-139	92 000	—	3 785	—	—	397 543	—
	AO-1-EL-140[3]	—	6 482 400[5]	—	822 786	2 119	—	43 560 268
	EL-141[4]	1 226 400	—	—	—	83 769	—	—
	EL-142	140 000	—	—	—	—	—	2 062 393
	EL-143	—	300 000	—	34 131	-1 478	—	—
	EL-144	250 000	—	—	—	5 372	—	—
	EL-145	—	179 000	—	3 364	-216	—	186 146
	ELO-169 to ELO-171	300	—	220	—	—	14 928	—
TOTAL NEW BRUNSWICK				1 011 340	1 977 822	39 901	54 529 457	104 494 520
4. Cedars Rapids Transmission Company Limited	ELO-150	20 000	—	—	—	—	—	—
5. Hydro-Quebec	EL-96	3 000 000	—	3 000 000	—	—	120 201 732	—
	EL-113	—	10 200 000[6]	—	5 336 139	669	—	165 046 313
	EL-131	—	320 000	—	—	—	—	—
	EL-132	131 400	—	68 009	—	—	2 746 196	—
	EL-133	—	525 000[7]	—	131 054	—	—	5 153 099
	ELO-154 to ELO-156 and ELO-158 to ELO-165	1 752	—	589	—	—	25 669	—
TOTAL QUEBEC				3 068 598	5 467 193	669	122 973 597	170 199 412
6. Ontario Hydro	EL-32	15 000	—	973	—	—	1 946	—
	EL-134	—	10 000 000	—	—	-129 702	—	—
	EL-135	10 500 000	—	1 198 883	—	—	52 852 287	—
	EL-136	—	20 000 000[8]	—	9 549 837	26 498	—	364 766 308
	ELO-166	80	—	20	—	—	941	—
7. Canadian Niagara Power Company Limited	AO-1-EL-124	130 000	—	—	—	—	—	—
	AO-1-EL-125	—	380 000[9]	—	300 606	13 386	—	9 652 130
8. Boise Cascade Canada Ltd.	AO-3-EL-63	—	87 600	—	—	—	—	—
9. The Detroit and Windsor Subway Company	AO-1-ELO-152	1 250	—	1 016	—	—	—	—
10. The Canadian Transit Company	ELO-167	25	—	24	—	—	—	—

E-V (cont'd)

EXPORTS OF ELECTRIC ENERGY — CALENDAR YEAR 1982

EXPORTER	LICENCE NUMBER	MEGAWATT HOURS					REPORTED DOLLAR VALUE OF EXPORT	
		LICENCE AUTHORIZATION		GROSS ENERGY EXPORTED				
		FIRM	INTER-RUPTIBLE	FIRM	INTER-RUPTIBLE	EXCHANGE[1]	FIRM	INTER-RUPTIBLE
11. St. Lawrence Power Company	EL-114	—	250 000	—	—	117 710	—	—
	EL-115	—	150 000	—	66 790	—	—	1 998 539
	EL-116	—	150 000	—	—	3 275	—	—
12. Dow Chemical of Canada Limited	AO-1-EL-121	—	438 000	—	18 747	—	—	862 150
TOTAL ONTARIO				1 200 916	9 935 980	31 167	52 855 174	377 279 127
13. Manitoba Hydro	EL-97	—	1 500 000	—	1 828 920	—	—	24 341 521
	EL-98	876 000	—	236 020	—	—	6 215 626	—
	EL-99	262 800	—	262 800	—	—	3 593 412	—
	EL-100	800 000	—	—	—	—	—	—
	EL-101	2 500 000	—	—	—	—	—	—
	EL-102	5 000 000	—	260	—	—	104 731	—
	EL-103	—	12 000 000[10]	—	2 887 524	37 595	—	42 899 023
	ELO-153 and ELO-172	7 899	—	1 791	—	—	39 315	—
TOTAL MANITOBA				500 874	4 716 444	37 595	9 953 084	67 240 544
14. Saskatchewan Power	EL-117	438 000	—	33 200	—	—	1 489 420	—
	EL-119	—	876 000[11]	—	9 065	17 335	—	78 443
	EL-120	876 000[11]	—	—	—	—	—	—
TOTAL SASKATCHEWAN				33 200	9 065	17 335	1 489 420	78 443
15. British Columbia Hydro and Power Authority	EL-126	32 000	—	13 493	—	—	474 025	—
	EL-127	2 000 000	—	—	—	980 589	—	—
	EL-128	3 000 000	—	—	—	—	—	—
	EL-129	—	525 600	—	525 600	—	—	10 434 566
	EL-130	—	10 000 00[12]	–	4 313 802	121 118	–	128 431 566
	ELO-168	600	—	323	—	—	44 909	—
16. Cominco Ltd.	EL-20	—	500 000	—	—	—	—	—
	EL-104	50 000	—	—	—	—	—	—
	EL-105	—	1 400 000	—	210 993	5 673	—	5 423 912
17. West Kootenay Power and Light Company	ELO-157	50	—	28	—	—	1 017	—
TOTAL BRITISH COLUMBIA				13 844	5 050 395	1 107 380	519 951	144 290 044
TOTAL CANADA				5 828 772	27 156 899	1 234 047	242 320 683	863 582 090

(1) Exchange is no value energy. It includes inadvertent and circulating flows, equichange, storage adjustment transfer and wheeling or carrier transfer.
(2) Total exports under Licences EL-64 and EL-65 should not exceed 4 380 GW.h.
(3) Licence EL-65 expired 3 September 1982 and was replaced by Licence EL-140.
(4) Licence EL-66 expired 3 September 1982 and was replaced by Licence EL-141.
(5) Total exports should not exceed 6 482.4 GW.h when combined with the amounts exported under Licences EL-64, EL-137 and EL-138.
(6) Total exports should not exceed 10 200 GW.h when combined with the amount exported under Licence EI-96.
(7) Total exports should not exceed 525 GW.h when combined with the amount exported under Licence EI-132.
(8) Total exports should not exceed 20 000 GW.h when combined with the amount exported under Licence EL-135.
(9) Total exports should not exceed 380 GW.h when combined with the amount exported under Licence EL-124.
(10) Total exports should not exceed 12 000 GW.h when combined with the amounts exported under Licences EL-97, EL-98, EL-99, EL-100, EL-101 and EL-102.
(11) Total exports under Licences EL-119 and EL-120 should not exceed 876 GW.h.
(12) Total exports should not exceed 10 000 GW.h during the water year (1 October to 30 September) when combined with the amounts exported under Licences EL-128 and EL-129.

E-VI

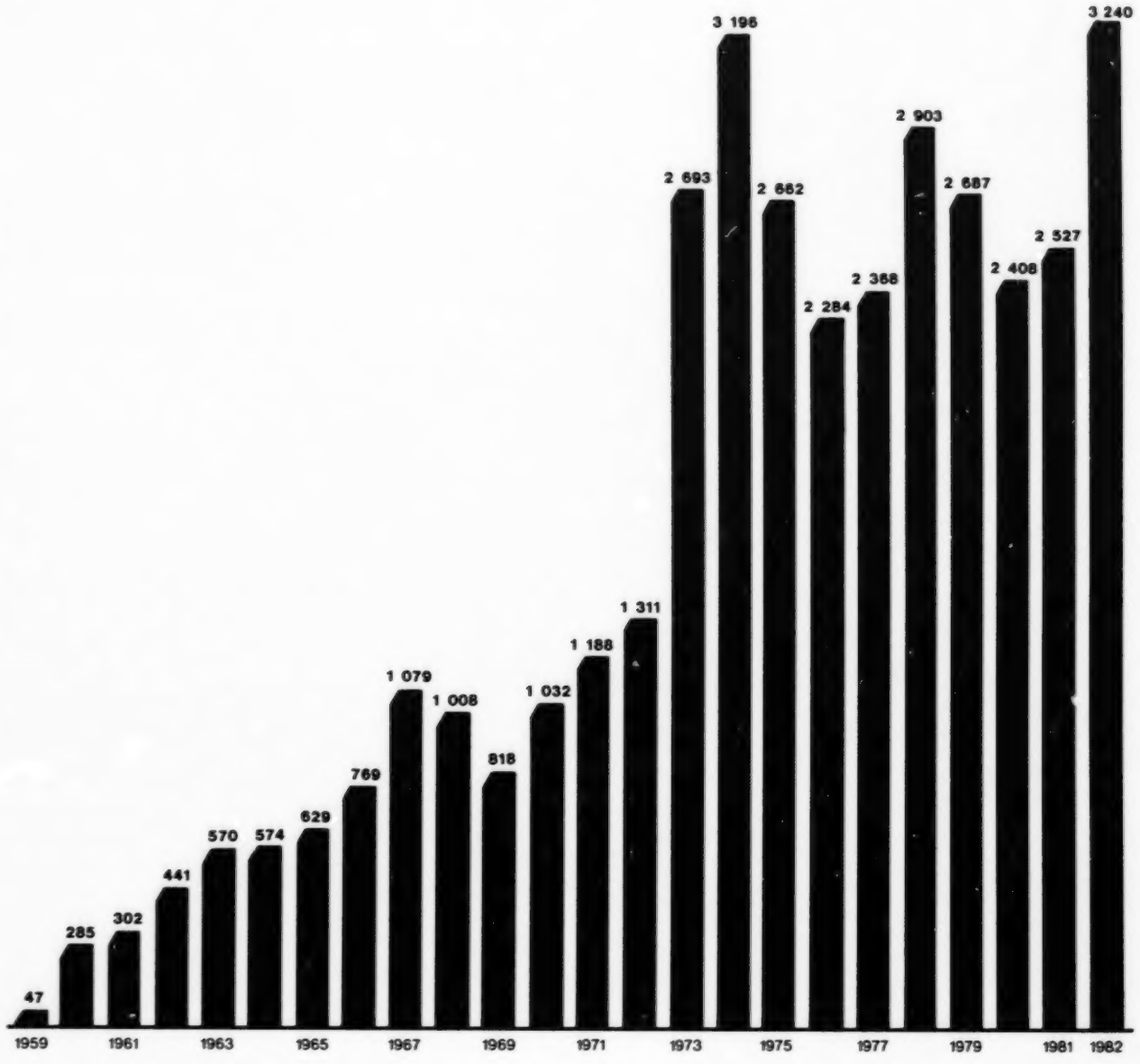
TOTAL CANADIAN ELECTRIC ENERGY SUPPLY AND TRADE WITH THE UNITED STATES — CALENDAR YEAR 1982

CATEGORY	GIGAWATT HOURS	
Electric Energy Generation for all Canada	375 400	(preliminary)
Electric Energy Importation from U.S.A.	2 849	"
Total Canadian Electric Energy Supply	378 249	"
Electric Energy Export (Gross) to U.S.A.	5 829	(firm) 1.6% of Canadian supply
	27 157	(interruptible) 7.2% of Canadian supply
	1 234	(exchange) 0.3% of Canadian supply
Total Electric Energy made available in Canada	344 029	(preliminary)

S-I

TOTAL NUMBER OF BOARD CERTIFICATES, LICENCES, PERMITS, ORDERS AND AUTHORIZATIONS BETWEEN 1959 AND 1982.

The National Energy Board Act was proclaimed on November 2, 1959.



POOR

QUALITY

ORIGINAL